CALIFORNIA JOURNAL OF SECONDARY EDUCATION

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INSIDE A MOSCOW CLASSROOM

TEACHER AND LIBRARIAN

HEALTH EDUCATION

STUDENT GOVERNMENT AND CITIZENSHIP

THE MORE ABLE STUDENT

A CURRICULUM DEVELOPMENT SCHEME FOR HIGH SCHOOLS

AN EXPERIMENTAL TEACHER EDUCATION PROGRAM

SYMPOSIUM THIS MONTH

TELEVISION AND THE SECONDARY SCHOOL

SYMPOSIUM NEXT MONTH

THE PLACE OF TESTING AND EVALUATION IN LEARNING
(City, County, State, and National Programs)

—Theme for the Year—

IMPROVING CONDITIONS FOR LEARNING

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EDITORIAL

SECONDARY EDUCATION—ACCENT ON QUALITY

Expressions of concern, both in school and outside, about the quality of the educational experiences of youth in high school come as a welcome relief amidst the traditional American concern with bigness.

Even though the tenor of educational discussion remains quantitative in tone, more mathematics, more science, more foreign language, a moderate degree of respect is now accorded to those who inquire of the possibility of a different kind of mathematics, a different kind of science, and a different approach to foreign language instruction, thus placing accent upon the qualitative aspects of the subject. When the emphasis is quantitative, upon more of one thing, it often must be at the expense of something else. More foreign language, less music; more science, less art. But emphasis upon improvement in the quality of the educational experience in a subject does not necessarily demand that another subject must give way.

In the effort to "beef up" the high school curriculum, by making the courses harder and by assigning more homework, here too at first the tendency was quantitative, "more of the same." Instead of five homework problems in mathematics, ten were assigned. This often only compounded the real difficulty against which we were battling. Now instead of five or ten problems, teachers are trying to see if one or two may suffice, placing the emphasis upon depth of understanding, upon the quality of the problem-solving experience, allowing sufficient time for thorough discussion of the essential nature of the problem under consideration.

Instead of a hurry-scurry approach to teaching, a quick survey of the field, leaving no corner of the subject untouched, attention now turns to serious consideration of the idea that everything cannot be taught to any one person, that selection is most important, and that what has been selected should be learned thoroughly. The new physics course of the Physical Science Study Committee illustrates this idea especially well. For years science books have been growing longer and longer as added chapters accumulated to cover newly discovered knowledge. Student and teacher became increasingly frustrated as they struggled to finish the book. However, the new approach in physics is to select a few pivotal ideas and to develop them thoroughly. The motivating force in high school is to open new vistas so that they stay open, to impel the pupil to continue his learning. The important criterion, in this view, is not *how much* but *what* physics has been learned, and by what method. The quality of the experience

should be such as to develop a "feel" for the subject, some "insight," and a desire to "go on."

This emphasis upon quality in the educational experience for the pupil has highlighted the necessity for teachers to be thoroughly competent in their teaching fields—a welcome accent—and for them to have enough time to plan, to think through, and to develop the necessary materials for their lessons. Teachers must not only be highly qualified in their subjects, but they must also have time to prepare for their teaching if the quality of the educational experiences which they are providing for pupils is to be of the highest calibre.

The quality of education probably relates somewhat to its tempo. We have been concerned with what appears to be an almost frenetic pace of all phases of high school life. Whether it be in classroom or on playing field, we seem to hurry, hurry, hurry. As my busy, energetic American business executive seat companion on a recent jet-airplane flight to New York remarked, in an unguarded moment of philosophical reverie, "Why is it so necessary for me to get to New York in four and one-half hours?" The old adage which admonishes "make haste slowly" may contain an important lesson today. This is not to suggest a reduction in zest and enthusiasm. But rather to emphasize that an attitude of thoughtful deliberation may enhance achievement and contribute to the genuine satisfaction that is derived from the learning experience itself.

The uneasy feeling persists that schools have attempted too much. As a consequence, accomplishment in matters of importance may have suffered. This is germane to the problem of quality. By concentrating, placing greater emphasis in selected fields, the results may become better. Excellence for one person, excellence in one field, may be of greater importance than mediocre achievement by many persons in many areas. As Max Lerner indicated, in the October 1959 issue of the *Journal*, ours is becoming a spearhead society, depending upon creative élites who can achieve distinction in limited fields.

The stress resulting from Gargantuan numbers of pupils and higher educational requirements in the face of dwindling supplies of teachers and monies forces a thoughtful reappraisal of educational effort. The emerging emphasis upon concern with quality in educational experience becomes persistent and promising. John Gardner of the Carnegie Corporation underscores the theme taken by the *Journal* for emphasis this year—improving conditions for learning:

> "More important is that excellence is where you find it. I would extend this generalization to cover not just higher education but all education from the vocational high school to the graduate school. There may be excellence or shoddiness in every line of human endeavor. We must

learn to honor excellence (indeed to *demand* it) in every socially accepted human activity, however humble the activity, and to scorn shoddiness however exalted the activity. There may be excellent plumbers and incompetent plumbers, excellent philosophers and incompetent philosophers. The society which scorns excellence in plumbing because plumbing is a humbler activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

R. N. B.

AN ENGLISH CLASS IN MOSCOW

BY WALTER V. KAULFERS*

A plump girl of thirteen was standing in front of the room when we entered the fifth-year English class in Moscow's English Experimental School No. 1.[1] She was dressed in the uniform of the Russian Ten-Year School—brown dress, black pinafore, and scarlet neckerchief symbolizing membership in the Pioneer branch of the Young Communist League. Her two pigtails were tied with red bows. Apparently she was in the act of reciting a poem. On seeing us in the doorway she stopped and, along with the other ten boys and girls in the room, stood at attention.

"This group just began its fifth year of English a few weeks ago," remarked the teacher, a pleasant woman in her early thirties. "The entire class numbers over thirty, but we divide it into three sections when we have conversational practice. Valentina was just reciting a little poem called *Work*. We were to learn it from memory today."

From this teacher's cultivated Oxonian accent and fluent speech, few would suspect that she had been born and educated in Russia. Obviously the teachers in the USSR's experimental language schools are a select group.

Having ushered us to seats at the back of the room, the teacher requested the class to sit down. "That was good, Valentina," she said. "You

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[1] Pending possible changes under the Education Act of December 24, 1958, Moscow's English Experimental School No. 1 has been operating as a coeducational ten-year school numbering 700 students, aged seven to seventeen, under a faculty of fifty. The study of English is begun in the second grade—usually at age eight in Russia. Starting in grade eight world geography, world history, and world literature have been taught entirely in English. By the time its graduates complete the tenth grade they have received 1,848 class hours of instruction in English—some twelve hundred hours more than they would have received in the regular ten-year schools.

The Act of December 24, 1958, substitutes a basic eight-year polytechnic school for the seven-year and ten-year schools of the past. Presumably exceptions will be made in favor of experimental schools or schools for talented children.

may take your seat. . . . Now let me ask all of you a few things about the poem."

The questions included such queries as "Who is the author of the poem?" "What is the name of the poem?" "What is the poem about?" "Do we know any other English poets of the nineteenth century?"

The eleven boys and girls all signified their readiness to respond by raising the right hand to the temple in what could easily be mistaken for an inhibited salute. Waving hands above the head is considered "uncultured" in most Russian classrooms. There was little doubt that the group had prepared the assignment conscientiously. Except for a few halting answers and minor slips in pronunciation the replies were generally satisfactory.

From the poem the recitation shifted to the second part of the assignment. "What was our written homework for today?" asked the teacher. She nodded toward Vasili. The latter rose and in a boyish contralto said, "Our homework was to write five sentences."

"That is right," commented the teacher. "Now will each one of you stand in turn and read one of your sentences? We will start with the row nearest the window." The chain reaction which this directive set off included the following sentences:

Sergei: "I want to swim the river."
Iliana: "I want to read my book."
Sonja: "I want to go for a walk."
Ivan: "I want to see television."
Vasili: "I want to go down to the planetarium."
Olga: "I want to read an English book."
Boris: "I want to play football."
Ibrat: "I want to fly to the moon."

The next activity involved reviewing a story about a spider that had traveled around the world. Said the teacher, "Let us tell the story together. As before, let each one give one sentence." She motioned to Sergei to begin. The second chain reaction revealed the nature of the narrative:

Sergei: "Once upon a time there was a little spider."
Iliana: "He lived with his mother and sisters and brothers in the roof of a large library."
Sonja: "His mother was very wise."
Ivan: "She could read the names from the back of the books in the library."
Vasili: "He couldn't read the books; he only boasted that he could."
Olga: "He was rather stupid. . . ."

After a few minutes the teacher interrupted the recitation: "Now let

us read the second part. Let us read it in persons. Boris, you be the father, and, Valentina, you be the mother. Come to the front of the room, please. The rest of us will read in chorus everything that is *not* in quotation marks."

During the next four or five minutes Valentina and Boris dramatized the dialogue parts while the remainder of the class read the narrative passages in unison.

"Ibrat, will you now read the third part of the story?"

The youngster arose and read the selection surprisingly well. When he finished, the teacher plied him with questions about what he had read. For example:

Teacher: "How would you go to the moon?"
Ibrat: "In a space sheep."
Teacher: "No, no, not *sheep*! What is a *sheep*?" She called on Sergei.
Sergei: "A *sheep* is an animal."
Teacher: "That is right. We go to the moon in a space *ship*."

Next on the lesson plan was a round robin. The students asked questions of each other, going around the class twice for this purpose. Typical of the questions was, "Did you help your mother last Sunday?" One lad, a chubby redhead, was unable to answer the query put to him. As a penalty he had to stand in front of the class till the end of the round robin. By that time he had the company of two other casualties. In order to get back to their seats the three "strikeouts" had to recite a poem. This they did good-naturedly without the slightest sign of embarrassment. Among the poems was one beginning "Ladybird, ladybird, fly away home."

At the conclusion of the second round, the teacher invited the group to play a vocabulary spelling game. In the absence of volunteers Nikita was designated to serve as "postmaster," and Dimitri as a citizen calling for his mail. The two took stations close to the front blackboard.

"Good morning, Mr. Postmaster," Dimitri began. "Is there a letter for me?"

"What is your name, please?" Nikita asked in his role of postmaster.

"My name is 'Wonderful,'" replied Dimitri.

"How do you spell 'Wonderful'?"

Dimitri took a piece of chalk and wrote *Wonderful* on the front blackboard.

"Here is your letter, Mr. Wonderful," replied the postmaster, handing Dimitri an imaginary envelope.

The two boys then designated replacements to assume their roles. The names given by different pupils during successive rounds of play were *travel, yellow, picture,* and *Pinocchio.* The spelling of the proper name proved so difficult that the teacher finally had to come to the rescue. All, however, knew that *Pinocchio* was a story by an Italian author.

A few minutes still remained before the period would end. They were filled by a game in which one pupil dramatized an action in pantomime in front of the class for the other pupils to identify. Vasili, who was called on first, strode briskly across the front of the room.

"What is he doing?" the teacher asked of Iliana.

"He is walking," the girl replied.

Successive pupils pantomimed the actions of *sleeping, reading, sitting, standing, cleaning the blackboard, writing, drawing,* and *kicking.* All were identified correctly without hesitation. From the standpoint of pupil participation it was the activity which the group appeared to enjoy most. Smiles and quiet laughter, so rare in Russian schools, filled the room. It was a nice note on which to end. Unfortunately, the teacher had to spoil the fun by announcing the assignment for the following day:

"For our next lesson, be ready to tell the three parts of the story of 'The Spider Who Went Around the World.' If you memorize it, I shan't mind. But if you want to tell it in your own words, that would be better."

There were no audible sounds of protest, but the unsmiling expression characteristic of so many of Russia's school children returned to the faces of the group. One did not have to be a psychologist to tell that Sergei, Sonja, Olga, and Dimitri did not like homework any better than their counterparts in lands beyond the sunset.

THE TEACHER AND THE LIBRARIAN IN THE DEVELOPMENT OF CRITICAL THINKING

BY HAZEL ADELE PULLING*

Critical thinking is something we do with more or less success every day of our decision-making adult lives. Because the pressures of life demand a continuous stream of decisions, learning how to make a decision, learning how to think critically and to come to a valid conclusion, is important in the educational process. It is so important that it warrants specific attention in the curriculum from the elementary grades through high school and college. It is so important that opportunity should be made to use the techniques of critical thinking in every class every day. It is so important that it requires the efforts of teachers and librarians, working together, cooperatively, knowingly.

The process of critical thinking entails all the techniques of analytical research. It involves, but goes far beyond, fact-finding which, with its accompanying report, completes the process of research too many times in too many schools. Fact-finding is a form of research; but it is not the only kind and it may or may not lead to critical thinking. The assignment of a report—for example, a report on Greek temples—is apt to mean a fact-finding excursion on the eve of the due date and a "reporting" of facts, intact and in mint condition, which have preferably been found by the librarian in small compass in one book. The teacher's task ends with the assignment of the report and the reception of rediscovered facts; the student's with a bit of copying; and the librarian's with a routine location of "something" on the subject. In the procedure, all elements of critical thinking are lacking.

An assignment which requires analytical research, on the other hand, involves the student in the process of critical thinking from the beginning

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of his assignment to the end. The teacher's methods will change somewhat, and the librarian will be enlisted in the solution of a problem which requires the use of techniques far different from those used in assisting in a fact-finding venture. Student, teacher, and librarian will work together as a team, not as unrelated units, each one pursuing his own particular pleasure.

The process of the development of a student's ability to think critically is like a football game in which the teacher is the center, the librarians in the community are the other players, and the student is the ball. In each procedure, preparation for the game is made, action is initiated, stimuli are applied. The student, like the ball, is propelled along the way—the ball to a goal post, the student to an original thought.

In analytical research, preparation consists of the questioning consideration of all the facts that may be assembled on the subject. Facts are used not as ends in themselves, but as means. Facts, shuffled and brought together in new and strange combinations through the audible "wonderings" of the teacher, through suggestion that the facts may not perhaps tell the whole story, may lead to wonderings on the part of the student and the formulation of tentative explanations and answers.

A discussion of the assembled facts of ancient Greek civilization may well lead, for example, to such wonderings as "If this is the way the Greeks lived, if this is what they believed, I wonder how they translated this way of life, these beliefs, into their temples" or "I wonder why the Greeks built temples such as these" or "I wonder how this belief was interpreted in their temple architecture." When the student begins to turn a wonder over in his mind, he is beginning to think critically. When he makes a guess—an informed guess—he has taken a further step in the process. It does not matter if his wonder has been made earlier by others, or if his hypothesis is wrong. The world may be old to us but it is new to the student. It does not matter if his explanation is not world-shattering in impact. The development of critical thinking must start with the student's mind as it is. The mind and its operation will grow; and, besides, children and young people are sometimes pretty shrewd.

Obviously, not every student is going to be stirred to wonder at every strange combination of facts, at every suggestion of the teacher. Some students will never wonder, just as some balls in a football game will never get off the ground. Some wonderings will die a stillbirth, just as some balls will never reach the goal post. Not every class discussion of facts will result in a student's mind soaring off like a ball into the blue, caught up by the propulsive idea that a wonder has brought.

But some will! It is the teacher's responsibility so to plan the game that a wonder may be generated and a hypothesis conceived as many times

When that is done, the game is over. The librarian may then turn the student back to the teacher for the writing or oral delivery of the report.

in as many minds as possible. For this is the key to the development of critical thinking. The assignment must be made by the student himself. It must come out of his own mind. It must be personalized by originality if it is to enliven the spirit of creativity that is needed to complete the process.

For the spirit of creativity, and it alone, will take the student to the library long before the eve of due date. It alone will keep the search for information by preference in the hands of the student, not the librarian. It will lead him to search, not for "something," but for specific data with which to test his hypothesis. It will direct his search, not to "a small book," but to large books, small books, all kinds of books, wherever they may be found.

The report which he makes will be an original one. His findings will remain with him when rediscovered facts lie once more in the cold mausoleum of print, awaiting perhaps another rebirth through the mind of another thinker.

What, then, is the role of the teacher's co-player, the librarian, in the development of critical thinking?

He must not fumble the ball! He must know through training and experience the earmarks of analytical research. He must, first and foremost, detect the fact that he stands in the presence of an incipient thinker. His clues are to be found, not in signals called by the teacher, but in the way the student requests assistance; in his attitude toward his assignment; in the very flame of creativity which glows in his countenance.

He must recognize a hypothesis and stand ready to exhibit a firm belief in its plausibility. He must be certain not to provide the answer if the hypothesis has already been tested. He must neither deflate nor deflect. He must know when to leave the student to his own devices, when to offer assistance.

He must prod the student through consultation to learn for himself what data are needed. He must demonstrate to the student without "teaching" the value of knowing how to locate information for himself and at the same time uncover both the technique and the requested material. He must not be "beforehanded" with information.

The librarian must watch for and encourage the proper methods of note taking; he must watch for and discourage the notation of data unrelated to the question. He must through conversation probe for moments of critical analysis as the student turns up one point after another. He must encourage the student to reach a sound conclusion on the basis of evidence found.

The librarian must "stand by and stand ready." His task is that of "abettor of research" and a stimulus to critical thinking. His job is to complete the process begun by the teacher.

DEVELOPMENTS IN SCHOOL HEALTH EDUCATION

BY RAYMOND A. SNYDER*

School health education, as we know it today, was not given a sound definition until 1919. From very humble beginnings its program has become boundless in scope and its activities are spreading rapidly. More important, the results of this program are reflected in happier and more effective children, youth, and adults. Yet, some aspects of the program are still to be developed in many schools.

Educators have recognized its importance in their statements on educational objectives. In 1918 the Commission on the Reorganization of Secondary Education placed "health" at the top of the list of the seven major objectives of education. Again, in 1946 the Educational Policies Commission[1] indicated under the objectives of self-realization,

> The Educated Person Understands the Basic Facts Concerning Health and Disease. . . .
>
> The Educated Person Protects His Own Health and That of His Dependents. . . .
>
> The Educated Person Works to Improve the Health of the Community. . . .

In addition to the specific inferences referred to above, the opportunities for health education are replete in the other objectives of human relationships, economic efficiency, and civic responsibility. Still in a more recent

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[1] Educational Policies Commission, *Policies for Education in American Democracy*, Washington, D.C., The Commission, N.E.A., 1946. pp. 201–203.

publication the Educational Policies Commission[2] in discussing the superior elementary-school program indicates, "It teaches the essentials of safety and personal health . . . It helps the child learn to care for resources, both human and natural, to use simple tools, and to look after his possessions." In discussing the secondary school the same Commission[3] states, "The programs of all secondary-school students should include English, social studies, science, mathematics, and fine arts, as well as physical and health education." They[4] go on to indicate, "A full-time nurse and a doctor should also be available within reasonable call. Health is a factor in the effectiveness of learning, and in any case the school must be prepared for emergencies."

In addition to the emphasis on health education in the elementary and secondary schools, a concern for this program has been extended into higher education. The President's Commission on Higher Education[5] in establishing the objectives of general education indicated one objective to be, "To maintain and improve his own health and to cooperate actively and intelligently in solving community health problems." This Commission goes on to say, "What is needed is a course that deals specifically and explicitly with the information, attitudes, and habits the student needs to maintain and improve his own health and that of his community."

With such a historical background and with such written support from educational authorities is would appear certain that health education would be thoroughly developed at this time. Although considerable progress is evident many school personnel have not taken the interest or initiative to fully develop this important area of the curriculum.

For purposes of discussion, planning, and administration the school health education program is organized as follows: healthful school living, school health services, and school health instruction. Healthful school living designates a healthful and safe environment, the establishment of interpersonal relationships favorable to the best physical, mental, emotional and social health of students, and the organization of a healthful school day, including such factors as schedule, rest, and relaxation periods. The school health service program includes appraisal, preventive and remedial aspects, as well as health counseling and guidance. Finally, school health instruction is a process of providing learning experiences which will favorably influence knowledge, attitudes, and practices concerning individual,

[2] The Educational Policies Commission, *An Essay on Quality in Public Education*, Washington, D.C. The Commission, N.E.A., 1959. p. 8.

[3] *Ibid.*, p. 9.

[4] *Ibid.*, p. 16.

[5] President's Commission on Higher Education, *Higher Education for American Democracy*, Vol. I, Washington, D.C., U.S. Government Printing Office, 1947, p. 54.

community, and world health. Its primary aim is to improve health conduct or behavior.

Public schools, in general, have made considerable progress in the area of healthful school living by providing new facilities and giving more recognition to the importance of environmental factors. Likewise, many schools are establishing better programs of school health services. With better services being provided both in the home and the community this program is making considerable progress. It appears to many that the greatest weakness in the school health education program lies in the area of school health instruction. Health instruction has not been given the same recognition as other instructional areas in the curriculum. The reasons are numerous: the curriculum is already over-crowded; some school administrators are doubtful as to the selection of curricular materials; there is a lack of prepared personnel and indecision as to who would teach health; and finally some educators are undecided as to the proper vehicle to use in the school health instruction program.

The above reasons for neglect of school health instruction were somewhat legitimate and valid in the early history of health instruction. Recently, however, these reasons are invalid and are being attacked by informed school administrators and school health personnel. No one will question that the curriculum is already overcrowded and will continue to be. In such situations it becomes necessary to weigh values and proportion of time for the teaching of subjects of vital importance to the health and welfare of all students. Adequate materials are now available and personnel are being prepared with majors in school health education with further specialization for master's and doctor's degree. Experimentation on method has produced adequate insight to give direction for planning this program.

The organization patterns of method in school health instruction include incidental instruction in everyday living, correlation of health with other established subjects, integration of health through identified "wholes" or projects, and direct teaching of health comparable to other subjects. If properly used, all these patterns have value. At all levels, but in the elementary school in particular, incidental learning through practicing good health habits is an invaluable method of school health instruction. Provided a natural and normal correlation of health is made with other subjects the correlation method has value in health instruction. In some instances, other subject areas have been distorted in an effort to deal with all health instruction through the correlation method. It was learned and indicated as early as 1930 that sole reliance on the correlation method for health instruction was impractical and undesirable. Integration in health instruction holds great promise in the future when rigid course barriers are broken down and broad inter-related curricular units are developed.

Incidental teaching, correlation, and integration should be used when appropriate but, in addition, some time should be set aside for direct and specific health instruction. If a student needs to learn mathematics he enrolls in a mathematics course. The same should be true concerning "health." In the elementary school continuous attention should be given to health instruction primarily through living experiences. Specific instruction in the elementary school concerning health should be given whenever needed. In the secondary school the specific study of health should be arranged for at least one semester and preferably offered for two or three semesters. Oberteuffer[6] points out, "The intent is clear—to teach healthful living by itself without other curricular involvements and for the purpose of making a direct and undissipated attack upon the major health problems as they affect the lives of people." Direct teaching is becoming quite popular at the present and many schools are inaugurating specific health courses.

To make adequate plans for all aspects of the school health education program a school health council or committee should be organized in each school. The council or committee is, however, only a means to an end and the emphasis should be placed on the functions to be performed rather than upon the organization. Since health is everybody's business, cooperation is the keynote to coordination of all efforts of the home, school, and community agencies. The end of all efforts is to improve the health for children, youth, and adults. Through cooperation between school and community health councils, well-balanced programs of health education can be developed both in the school and the community. The dress rehearsals for a sound school health education program are over and it is time we put the program on the road.

[6] Delbert Oberteuffer, *School Health Education*, New York, Harper and Brothers, 1954, pp. 57–58.

BUILDING CITIZENS THROUGH THE STUDENT GOVERNMENT PROGRAM IN THE HIGH SCHOOL

BY ELISABETH WILSON MOORE*

Citizens today are greatly confused regarding the various phases of the extracurricular or out-of-class program of the comprehensive high school. The student government program is one of the most misunderstood and misinterpreted of these. The term "student government" is assumed by some to mean a state of chaotic unrestrained freedom in a school, where a principal either through weakness or Utopian idealism has abdicated in favor of total government by the students. It is time that educators correct this distorted picture which prevails in the minds of many well-meaning, but uninformed citizens. It is not enough for those of us involved in this activity steadily to pursue our purposes in secret. We must speak up, tell the citizens of our communities what our aims are and how we are succeeding in accomplishing them.

Before attempting to interpret our student government program to others, it is well for us to re-examine what student government is in the high school, and what it seeks to accomplish in citizenship education of student participants.

The first part of this question, "What is student government?," deserves some re-thinking. Actually, student government should more accurately be called school government for it is never government by the students exclusive of faculty or administrative supervision and veto power. It is limited (never complete), student government.

The degree to which students are given authority to deal with school decisions depends particularly on two factors: (1) The principal's desire

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to have a strong student government. (2) The students' ability to meet such a challenge with an acceptable degree of success, for at all times the principal is charged with the responsibility to maintain a school that operates fairly for the welfare of all students. The principal must also carry out the total school program with a high degree of efficiency. Never can he afford to sacrifice either of these responsibilities. But there are those principals who have sufficient insight to realize that a high school can be run more successfully by encouraging students to help identify problems, work on solutions, and assist with decisions. In this fashion they make the administration of a high school a cooperative endeavor, a unified effort on the part of all concerned: the students, the faculty, and the principal. When decisions are not handed down, when they are built by a joint effort, this is student government.

The authority for this government is delegated by the principal to the students through a written or oral agreement, contract, or constitution. This constitution may be developed by the students, but it must be approved by the principal who always retains veto power. Through this contract, authority is given to the students by the principal to make school decisions in designated areas subject to his approval.

The principal has a dual purpose in delegating this responsibility: (1) to promote unity and support for school decisions; and (2) to provide learning experiences in citizenship for students.

It is important that these learners be given opportunities to make decisions and carry on governmental functions that are worthy of their attention. But these should not exceed the ability of students to perform with considerable assurance of success. The element of success cannot be overemphasized in building high morale among students. The value of leadership experiences comes from the pride derived from successful achievement, not from the frustration resulting from inability to cope with situations for which the student, because of immaturity or lack of training, was not prepared.

Many plans of student government may provide varying degrees of experiences with democratic practices. Harry McKown, author of numerous books in this field and recognized authority on student government, points out that the plan is less important than the use to which it is put. In his book, *The Student Council,* he emphasizes that a model form of government slavishly imitated does not necessarily meet the needs of the local school situation. He stresses the importance of a constitution that is complete in coverage, simple in organization, and clear in style.[1]

It is well to keep in mind in designing a plan of student government

[1] McKown, Harry, *The Student Council,* New York, McGraw-Hill Book Co., Inc., 1944. p. 107.

that the plan be usable and workable in the school. Complicated plans based on the separation of powers of the national government often become too clumsy and time consuming in operation to serve the purpose of school government; however, there should be a plan chosen that provides for representative government within a framework that will fit into the school schedule and includes a system of checks and balances. It is especially important that the evolution of the plan be arrived at through a democratic process: a constitutional convention; a careful study involving student representatives; and a two-thirds vote of approval by the total student body. Once the selection has been made and approved by the students, in the interests of stability, it should remain in force with only minor variations made from time to time through the amending process.

Probably no two school governments are alike. Various terms are used to designate the governing bodies: some are called councils, some boards, and some cabinets. These differences are realistic for we find them in adult community organizations.

The important emphasis should always be on how student government can promote better understanding of citizenship responsibilities and more facility in the execution of democratic practices. We should guard ourselves constantly against becoming so involved with the mechanics and processes of democracy that we fail to focus attention on the main aim, which is to develop democratic concepts and attitudes.

The second part of our question states, "What does student government accomplish in the way of citizenship education of its participants?" We need to evaluate our program carefully to be certain that the leadership experiences provided have definite "carry-over" value in community life.

Educators are aware that aims are not achieved unless serious thought has gone into the planning of how to realize those aims; that goals are not reached unless direction is established toward those goals. As in the case of other aims or goals, to build citizens through the student government program in the high school requires planning and direction.

Refer back to the explanation of the nature of "student" government—to the fact that although it does provide practice in democracy for students, it is constantly supervised by adult citizens. This is partly true, as previously stated, because all authority for student government stems from the principal, but it is also purposely planned so that adult faculty advisers are assigned the responsibility to build citizens for community life through these activities. This task is definitely assigned as an integral part of the teaching or counseling load in schools where correlation between school government leadership and community leadership appears high. It is not, therefore, through chance or a blind process of trial and error that student government turns out citizens. Rather it is accomplished through a carefully planned program, with responsibilities delegated by

the principal to appropriate advisers and coordinated through regular monthly advisers' meetings. It is organized by means of a *Leadership Class* which serves as a clearinghouse for all government activities and a unifying force to build purpose throughout the entire program.

At Pasadena High School, for example, the counselors have assignments related to their guidance responsibilities. The junior class counselor is assigned the responsibility of adviser to the junior class, and in turn is the personal adviser of the junior class president working with him in all planning and all activities. This is true of the senior class counselor and the senior class president also. The vice-principals and registrar sponsor other branches of the program. One is in charge of the Boys' League, another the club program, and another the Girls' League. Still another counselor is adviser to the elections commissioner, and in this case works with him to plan well-organized election campaigns with fairness and honesty in voting practices. Problems concerning any of these functions come to the Leadership Class where they are discussed thoroughly before they are brought to the formal Associated Student Body Cabinet meeting for decision.

This brings us to the Leadership Class itself and the role it plays in the process of transfer of learning from school to community leadership. It is *because* the high schools have concluded that to build citizenship through the student-government program requires both guidance and instruction, that leadership classes have sprung up throughout the country in recent years. Such a class has been offered on the secondary level in Pasadena for ten years, and it has been the author's responsibility to teach this class from its beginning until the present time. Both of the high schools in Pasadena now have such classes which are based on similar aims and use the same textbooks. A typical schedule of the Leadership Class at Pasadena High School includes:

Monday:

Test day—usually essay type or short-answer tests are given. These include tests on the school constitution, group discussion techniques, parliamentary procedure, taking minutes, planning conferences, etc. Several textbooks are used.

Tuesday:

Student leaders and faculty advisers plan for coming events. These include: agenda planning, scheduling of meetings or events, arranging for assemblies, filing, bookkeeping, working on minutes, answering correspondence, etc.

Wednesday:

Class instruction and discussion of school problems

Thursday:

Associated Student Body Cabinet Meeting

Friday:

Finish the jobs of the week. Continue discussion of school problems. Prepare for Monday's test.

As student government adviser, the author's responsibilities are: (1) to teach this Leadership Class and coordinate the student government through it; (2) to be adviser to the legislative and executive branches of the school government—the Associated Student Body Cabinet which is composed of the usual four officers, several commissioners, president of Boys' and Girls' Leagues, and the class presidents; the Representative Council which meets bi-monthly and is made up of elected representatives from all basic classes of the school; (3) to be personal adviser to the A.S.B. president, the vice-president who is chairman of the Representative Council, and the A.S.B. and Representative Council secretaries; (4) to attend monthly meetings of the Foothill League Forum and its annual conference with the student officers as the adviser from Pasadena High School, and to attend any other interschool conferences such as the California Association of Student Councils.

One of the ways in which the advisers and the class work together on the matter of developing citizenship is through the Advisers' Rating Sheet. Each grading period, or more often, a rating sheet is issued to each student officer's adviser. The adviser then rates the student on specific points under two headings: (1) Cooperation with adviser; (2) Leadership efficiency. A grade is then placed on the sheet for each of the two areas which is averaged in with the class records to acquire a grade for Leadership Class. As most of the students are already "A" or "B" students, the grade is less important to them than the rating itself. Either the individual adviser goes over the points with the student, or the teacher does so as a part of the guidance function of the Leadership Class.

In addition to these points stressed in the rating sheet, a great many intangible learnings take place in this class through the process of give and take, leader and participant, standing for one's own ideas, but at times compromising in the interest of the total program or welfare of the group.

In this manner, through the carefully planned program in the high school, advisers, directors, or teachers of Leadership Classes are helping to build citizens who will exemplify by their attitudes, practices, the manner in which they execute their responsibilities, and by the quality of their service, the democratic values upon which the future of our community and government depends.

PROVIDING FOR THE MORE ABLE STUDENT

BY JACK M. CAPRI* and NORMAN SHAPIRO**

During the school year 1957–58 an interesting "experiment" was carried out at Hoover Junior High School in Oakland by providing "enrichment" experiences for the more able students in the school. With firm conviction of responsibility to challenge the top group of students in our small school, whatever the size of such a group might be, a plan was devised to meet their needs.

After considerable thought by the administration, staff, parents, and students of the school, a special class was established which met in the pre-period 7:45 to 8:40 every morning. This class was to be in addition to the regular six-period day of the students. No unit or grade value was to be offered.

Selection of students for the class was on the basis of past performance, test records (for the most part, a Binet score of 125 or more), and the recommendations of teachers and counselors. Twenty-two students representing grades seven, eight, and nine comprised the first class.

Involvement played an important aspect in the early organizational stages of the program—involved staff, parents, and students. The staff held a series of exploratory meetings for the purpose of curriculum planning.

Open meetings for all interested staff members were scheduled before and after school. As a result, a core of interested teachers was able to formulate the particulars of the curriculum for the class.

Parents and students became involved in a series of meetings called for the purpose of explaining this new program. That both parents and

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students were involved in the planning stages of the program contributed to their continued enthusiasm and cooperation throughout the school year. After a frank discussion of the aims of the program, parents endorsed a contract form agreeing that attendance on the part of their children would be on a regular basis. During the course of the year another meeting was held with parents—this time to see the class in action, meet the participating teachers, and join in an evaluation of the progress of the class. Curriculum planning and development at the local school site became a reality with this program. In-service training, too, took on a "new look." Four major areas were stressed during the first year of the program:

1. Science-Mathematics—with the International Geophysical Year as a point of departure (10 weeks)
2. Art—both history and technique as well as appreciation (7 weeks)
3. Music—both history and appreciation (3 weeks)
4. Literature—a survey of various types (5 weeks)

By making use of "resource" persons and planning field trips, it was possible further to enrich each of the four areas. As examples, some of the following activities were included:

1. Science-mathematics unit: guest lecture by the science supervisor for the Oakland Schools; an expert from the local weather bureau; field trips to the weather station, etc.
2. Art—field trips after school or on weekends to all of the art museums in the vicinity; a trip to the etching lab of the University of California, etc.
3. Music—visits to rehearsals of the Oakland Symphony Orchestra; a talk and demonstration by the concertmaster of the symphony.
4. Literature—classroom visits by a local author, James Harlow, Oakland Schools; a visit by Ralph Moody, author of *Little Britches* and *Man of the Family*

In order to gather data on the progress of the class a continuous program of evaluation was undertaken, based on the following methods:

1. Standardized tests—parallel tests at the beginning and end of the program (e.g., SRA Study Skills)
2. Teacher-made tests
3. Teacher observation
4. Self-appraisal
5. A "taped" record at the conclusion of each of the four areas.

A careful follow-up study was made of the scholastic grades received by the students in all their regular subjects. This indicated that, in general, students either maintained their regular scholastic standing or went up in scholastic standing. In addition to the regular standardized tests administered to all students of the school, the SRA Work Study Skills test was administered to this group. On the basis of the test, 73 per cent of the students were found to be working above grade level ranging from .1 of a year to 3.9 of a year. An item analysis of the test was carried out under the direction of Miss Elenore Lazansky, Research Department, Oakland Public Schools, and was used as a diagnostic instrument in follow-up work with all the teachers participating in the program.

Summary

In order to provide for the top group of more able students at Hoover Junior High School a special pre-period class was established. On the basis of the data collected during the initial year of the program, the following results were observed:

1. The top group of more able students can successfully be challenged by the creation of additional educational opportunities of an enrichment nature. Marked growth in basic skills as well as critical thinking was noted when comparing test results after "exposure" to this class. The newly stimulated desire for knowledge also carried over to the regular subjects taken by these students.

2. Curriculum planning and in-service training are at their "peak" during a program such as this. Faced with no set curriculum or textbooks, teachers—both traditional and new—are more creative in their efforts.

3. Programs for the more able student if properly "launched" will have continued cooperation and support from all those involved. The key is *involvement* of all from the planning stages of the program.

4. Student attendance was on a regular basis and student reactions ranged from "stimulating and interesting" to "opening up new doors."

5. By cutting across grade levels some students were presented with material ordinarily not presented until a later grade.

6. Plans have been made for the continuance of the special pre-period class for the coming school year with a continuous program of evaluation.

7. As a result of the experiment the scope of the regular school program has been increased. Two new classes have been established—an art and an industrial arts class meeting within the regular school day, cutting across grade levels, and drawing the more able, talented students in those areas.

FOUR-DIMENSIONAL CURRICULUM DEVELOPMENT AND COORDINATION FOR SECONDARY SCHOOLS

BY STANLEY B. SHAVER* and RAGENE FARRIS**

Five years ago it became evident not only that our instructional program needed modification and some innovations but also that an appropriate pattern of coordination must be developed to meet the challenge of growth from a "one school" system to one of at least eight 4-year high schools in the Covina Union High School District. At that time tradition pointed to the use of supervisors and department heads. It was then, and still is, our belief that the term "supervisor" has outgrown its effectiveness in education, and that the department head organization in a majority of instances has degenerated into a task of bookkeeping details and handling administrative orders.

Instead of using these outmoded titles, we decided upon the more appropriate designation "Curriculum Coordinator." To one who is sincerely interested in teaching, this term has meaningful attractiveness and, at the same time, has hidden within it all the essentials of professional supervision. The degree of effectivness of this supervision lies in the pattern of organization and in the drawing of the lines of responsibility.

We had on our staff many capable and highly regarded teachers who had organizational ability and who had an interest in developing more meaningful instructional programs. We were convinced that the nearer this program could be conducted at the teachers' level, the more respected, efficient, and operative it would become. Hence, the Teacher-Coordinator

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became the key to inspiring the cooperation necessary to insure success in an adventure to improve teaching.

We began the experiment by releasing teachers in the various departments of each school for a sufficient amount of time to enable them to give planned attention to the ever-increasing problem of the orientation of new teachers, to evaluate and to inspire all teachers in their respective curricular areas, and, at the same time, to assess the curricular needs in the various branches of instruction.

Three years ago a specialist in curriculum development came to the district as associate superintendent. He accepted leadership in this program, and has brought it to the point where we consider the experimental period to be completed. We further feel that it has been such a valuable experience in curricular development in our district that we should share it with others in the profession.

The key element of our four-dimensional curricular development and coordination program is the Teacher-Coordinator. In each of the schools of the high school district (five schools—1958, six schools—1959) are nine Curriculum Coordinators appointed by the principal in each school to serve the major areas of the curriculum. These coordinators are given one period per day to coordinate the curriculum of their department. English and social studies coordinators are given two periods because of the size of their departmental groups. The coordinator may be likened to the departmental chairman in some schools. However, under the existing program, the coordinator has come to represent considerably more than typically reflected in the concept of department chairman.

The Curriculum Coordinator functions in four dimensions. He plans for, participates in, and exerts leadership in four types of calendarized meetings which provide the basic design for curriculum development in the district. These are:

1. *District-wide* coordinator meetings (involving sixty coordinators, their six principals, and distant staff members).
2. *Curriculum Area* coordinator meetings (involving small groups such as six English coordinators, six math-science coordinators, six language coordinators, et cetera).
3. *Individual school* coordinator meetings (involving the nine coordinators of that specific school, the school principal, and a district curriculum office representative).
4. *Coordinator-Teacher* group meetings (departmental meetings held monthly in all curricular areas as an in-service requirement of each teacher). All teachers are involved in this manner.

The Curriculum Coordinator performs at four levels, or in four dimensions of function related to instructional improvement.

Dimension 1

District Curriculum Coordination—Centralized coordination is exercised by the Superintendent in charge of Curriculum and Instruction, who plans six district-level, two-hour meetings per year. At these times, Curriculum Coordinators, Principals, and Central Staff personnel meet as a Curriculum Council to initiate, to study, and bring many problems to a recommendation-decision stage. Illustrative of this dimension of coordination are:

a) Consideration of major changes in curricular structure (generally based upon a period of study and/or action research).

b) Communication re mutual problems conditioned by rapid growth in number and size of schools.

c) Consideration of action research projects, instructional improvement needs, etc., and relating these to the program of individual coordinators and coordinator groups in individual schools.

d) Promotion of district-wide planning of activities and relating these to calendar, schedules, resources, etc., e.g., over-all in-service education program—coordination of the County Institute program.

Dimension 2

Curriculum Area Coordination—Coordinators of specific curricular areas from each school meet with persons of like responsibility as needed throughout the year and as part of the six district-level meetings mentioned above. These people represent the thinking of their departmental groups in several key functions related to the instructional program. These are:

a) Coordination of textbook adoptions. When area coordinators (six persons currently) agree on a text, this amounts to adoption, subject only to review by the Curriculum Office. There is still an opportunity for the individual school to present "a case" for another text, however. Multi-texts and supplementary materials are encouraged along with the basic text, but an attempt is made to obtain consensus on basic texts, particularly in the required curriculum.

b) Intra-district cooperation and communication re continuity of instructional improvement activities; e.g., language arts coordinators will meet about five or six times a year to discuss the district language arts program. Most Curriculum Area Coordinators hold similar meetings re course development and instructional materials. Some of these meetings are qualified for County Institute credit.

c) Communication and study re supplementary and/or enrichment materials for curricular areas, with major attention given to the study

of and evaluation of graded materials for slow, average, and fast learners to support grouping for instruction.

d) Continuous analysis and evaluation of philosophy, policy, and effectiveness of program and personnel. Coordinators visit classrooms in relation to the program but not for evaluation of personnel for employment. Teaching techniques and use of instructional materials are continually being discussed. A climate of professional assistance is fostered.

Note: The functions of Dimension 2 are tied closely to those in Dimension 4.

Dimension 3

Individual School Curriculum Coordination – Coordinator groups (nine Teacher-Coordinators, Librarian, Head Counselor, and often the Audio-Visual Coordinator) meet twice monthly on a calendar basis. The Principal and a central office staff member serve in participant, liaison, and resource roles in the group. A teacher is elected chairman and another teacher is appointed to serve as secretary. Based upon requests, the chairman and secretary prepare the agenda prior to each meeting and afterwards provide all members with meeting notes. These notes are exchanged with other coordinator groups within the district. This decentralized coordination provides for:

a) A clearinghouse for discussing and making recommendations to the administration regarding instructional problems affecting the school or a particular curricular area. Administrators have an opportunity to discuss existing policy and potential revision with their group.

b) Promotion of elasticity of practice within the district, based on local conditions, personnel, and action research.

c) Horizontal and vertical communication and articulation regarding the various courses in the curriculum. Informative reports are made frequently to help all coordinators get an understanding of other areas.

d) Cooperation regarding the total curriculum as opposed to several unrelated departments.

e) Identification of current concerns: curricular and instructional practices in relation to long-range curriculum planning.

f) Selection of specific projects for analysis and group study leading to recommendations for change.

Dimension 4

Coordinator-Departmental Group Coordination–Each coordinator meets

once monthly with the teachers of his subject in his school. Among his functions are:

a) Reporting to the school-wide coordinator group any curricular matters brought back from his teacher group, and reporting to teachers announcements and discussions in coordinators' meetings.
b) Involvement of teachers in curriculum development, such as courses of studies, curriculum guides, teaching units, resource bulletins, and study of curricular changes at state and local levels.
c) Promotion of inter-visitation, sharing of ideas, and continuous study and evaluation of the departmental program with emphasis on teaching effectiveness and coordination of course coverage.
d) Visitation of teachers in the department or area, particularly teachers new to the district. In some cases demonstration teaching or exchange visitation is practiced between coordinator and new teachers.
e) Involvement of teachers in the evaluation of all teaching materials for future purchases and use, including county film orders.
f) Promotion of a feeling of participation in and understanding of efforts to develop the instructional program by all concerned.

Since departments vary in size and curricular objectives, there is no set job description for the Curriculum Coordinator. He must establish his working relationships in terms of his program, his personnel, his budget, and his perception of himself in his role. He functions as the key assistant to the Principal in his role as educational leader of the school.

General guidelines are established in three broad and overlapping ways. Coordinators are expected to

(1) provide instructional leadership
(2) promote professional personnel relationships
(3) perform professional-clerical and clearinghouse activities

Four C's of coordination are emphasized which each coordinator is expected to promote at four levels within the district.

1. *Communication*—Among teachers within a department and teachers within a school; between Curriculum Area Coordinators and teachers within the district and Coordinator-Principal-District Staff.
2. *Cooperation* – Intra-school and intra-district. Many opportunities are provided to effect cooperative effort in the solution of common problems.
3. *Continuity of process*—Regular calendarized meetings, conferences, workshops, planned agendas, planned individual school and district-wide meetings, and a year-long calendar of activities and functions

published well in advance and available to all personnel in the district.

4. *Consistency* of approach—Use of energies related to long-range planning along with short-range problem solving. All coordinators can find opportunities to meet and solve the various problems which arise throughout each school year through the help of their colleagues in the other schools and within their own schools.

Presently each school in the District has coordinators in the following fields: English, social studies, math-science, languages, boys' physical education, girls' physical education, industrial arts, fine arts, homemaking, and business education. Librarians and Audio-Visual Coordinators also function as members of this group. On occasion, school nurses participate in problems relating to health services and health education.

A unique feature of this program lies in the fact that each coordinator is provided at least one regular teaching period per day to carry out his program. This is one of the few programs operating in California where specific time for curricular coordination is provided within the school day. In a doctoral study completed in 1954, "lack of time provided for curriculum work within the school and lack of personnel to give adequate attention to the work were the most consistently marked drawbacks to local curriculum development and coordination" in the 107 school districts studied.[1]

Coordinator-chairmen from each of the districts' six high schools recently provided an evaluative review of the coordination program to the Board of Trustees. Among their remarks were the following:

1. The coordinator functions in the continuing orientation of new teachers, sharing, assisting, demonstrating, explaining, giving comfort and security, etc.
2. The coordinator has the opportunity to show sound judgment regarding instructional change, stimulate discussion and exchange of ideas, involve everyone in a positive manner, establish a professional atmosphere in the department, encourage good teaching.
3. The coordinator promotes good communication, sifts complaints, keeps good contact with his Principal, has a clear understanding of his program and an overview of the "whole picture."
4. The coordinator serves a delicate role in the guidance of his teacher group (leadership, not dominance; teamwork balanced with individual work; cooperation, yet firmness where necessary).

[1] Farris, Ragene A., "A Critical Study of Curriculum Development and Coordination in Secondary Schools of Southern California," unpublished doctoral study, University of California at Los Angeles, 1954, pages 324 and 344.

5. The coordinator promotes an organized approach to his department. He develops his departmental curriculum library (course files, tests, new books, magazines), executes well-planned departmental meetings, routes information, and stimulates a professional atmosphere in the department.
6. The coordinator promotes visitation. He sets a climate of sharing which enables classroom visitation to occur.
7. The Coordination Program allows the coordinator to do a professional job in "quality control" of his departmental instructional program. A quote from a "first year" coordinator which gets at the heart of the matter of coordination is as follows: "My first year as a Coordinator has been a busy but rewarding experience. I know that I have profited greatly from the countless opportunities for sharing techniques and ideas."

In a survey of teachers new to our district this year (seventy-six in number) to determine reactions to the Curriculum Coordination Program, the following kinds of comments were received:

A good "listening post" and general encourager.

Gracious and ready to answer questions—friendly attitude—cheerful outlook.

Departmental meetings have a prevailing atmosphere of relaxation and accomplishment.

Overview of organization was good.

Gave me courses to study—helped me learn department policy and district policy.

Made materials available and explained the requirements.

Shared opinions about texts, standards of grading, etc.

All teachers in my department have a say in the curriculum development.

A very positive and cooperative team approach was used rather than a "pyramidal policy approach." This was much appreciated.

Crystallizes the current objectives of curriculum. Makes clear what materials are within the teacher's reach.

Understanding other people in a department, and stronger feeling of appreciation for other departments.

Department meetings are a great help. Through them one is made to feel a part of the school. Department meetings enable us to concentrate on the objectives and accomplishments.

Helps standardize different teachers on the same subject. Everyone understands the aims and goals of the department.

The program serves to guide the new teacher so she will not have to

learn everything by trial and error. I have never worked in a system where this service is available. It is very worthwhile.

One needs to become adjusted as quickly as possible. It is very helpful for the teacher to have a "counselor."

Probably one of the greatest values to the district, aside from the direct instructional benefits to students, has been the "training in leadership" function of the program. It has been necessary to staff a new high school each year since 1956. Experienced coordinators, almost without exception, have moved to, and guided the opening of, new schools. It has been possible to maintain a district policy of equal curriculums and quality of program in the new schools because of leadership developed through work in coordination.

As the program moves into its sixth year, six high schools are involved. Major emphasis is being placed on communication and accurate processing of ideas. Sufficient balance of authority and responsibility resides in the Curriculum Coordinator to enable him to make a significant contribution to the continuing improvement of the "what is being taught," the "when and how it is taught," and the "material used in teaching" aspects of instruction in the comprehensive secondary school.

A "machine" designed to change secondary school instructional programs to meet the societal demands of the times is becoming increasingly vital. Every district must have one. In the mechanical sense, school districts vary significantly as to the model and effectiveness of their "machine." We can see an analogy at a glance by looking at the cars on our highways. Some are powerful and move fast; others have too much chrome. Some are well designed and operate with high efficiency; others burn too much oil and get poor mileage. Some need to be junked and traded for a new model. Does your district have just a "transportation car" or a "new model" working at the problem of curriculum development? Providing an instructional program of high quality for students of varying abilities and achievements is a curriculum challenge of such magnitude as to demand the best model of machine for curriculum development. Such machinery, to be effective, must be designed for its job, kept in good repair, and used consistently and continuously. Our four-dimensional program has worked. We recommend a similar model to other school districts.

PILOT STUDY IN PREPARING SECONDARY-SCHOOL TEACHERS AT LOS ANGELES STATE COLLEGE

BY JULIAN B. ROTH* and JAMES L. GILMORE*

"Conditions in American education are ripe for constructive educational change. Realization of the inherent potentialities depends upon the extent to which proper leadership comes forth."[1] In an effort to meet these conditions at the level of teacher preparation, the Secondary Education Department of Los Angeles State College launched an experimental program which began in the fall semester, 1959. The pilot experiment is designed to investigate the possibility of strengthening, for prospective teachers, the relationship between the subject matter commonly found in the "foundations" courses in the program for preparing secondary-school teachers and the actual classroom teaching situation. Under present conditions the foundations courses are taught in the college classroom and are prerequisite to student-teaching assignments. The content of the two five-unit foundations courses includes child growth and development, educational psychology, mental hygiene, educational sociology, principles of education, curriculum in secondary education, and tests and measurement. Students are also required to have one specific methods course prior to student teaching.

The experimental program made six basic changes in the standard secondary-teacher education program: (1) the locale for teaching the foundations courses was moved from the college campus to a Los Angeles city high school; (2) the subject-matter content of the courses was re-

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[1] R. N. Bush, "Decisive Educational Leadership Needed," *California Journal of Secondary Education*, 1959, 34:151.

designed and reorganized to bring it into closer accord with the high school setting; (3) the methods of instruction employed by the assigned college instructors were designed to make maximum use of the school setting as a laboratory for demonstrating the relationship between theory and practice; (4) the first assignment of student teaching is included in the program in order to provide classroom situations for the examination and application of the subject matter of the foundations courses; (5) it is anticipated also that closer relationship between the two foundations courses and between these courses and the student-teaching situation will be obtained when the two instructors assigned to the program plan together and act as student-teacher supervisors; (6) additional interrelationships may be brought about by the fact that cooperating high school administrators, department heads, and selected members of the high school faculty, as well as the two college instructors assigned to the project and the head of the college secondary-education department, serve on a joint steering committee which participates in all major planning efforts. Specific attention is directed toward fitting the experimental program to the school, with minimum interference to the regular school routine. Every effort will be made to provide maximum benefit to the school itself as well as to the Los Angeles State College students involved in the program.

The experimental population consists of ten credential candidates who have had no prior education courses and who were recommended by their major departments as having adequate subject-matter background for a first-semester student-teaching assignment.

The experiment is being conducted at Benjamin Franklin High School, 820 North Avenue, Los Angeles 54, California—Earl Barnett, Principal. The high school provides facilities for the program. These include classroom space, a limited library of appropriate professional literature, and courses of study from the Los Angeles City School District. Audio-visual aids are obtained from the college as well as the school district.

Two members of the Los Angeles State College faculty, authors of this article, are assigned to the project. They conduct the program for the college and teach the foundations courses. They supervise all school activities of the students for the college in conjunction with the administrative staff of Franklin High School. Additional aid in student-teacher supervision will be furnished by the college by placing special subject-matter supervisors on a consultant basis to be called when needed.

The content of the foundations courses includes these major topic headings: child and adolescent growth and development, the learning process, mental health and adjustment, measurement and evaluation, the role of a teacher in a democratic society, general methods of teaching in the secondary school, functions of education in a democracy, the nature of curriculum, and the organization and administration of secondary education. The his-

tory and philosophy of secondary education will be introduced where applicable for developing understanding of the topic being studied.

In addition to the course work and the assignment of student teaching, members of the experimental group attend all faculty meetings and appropriate departmental meetings, and participate in such high school student activities as are decided to be beneficial to them and to the school. They are afforded opportunities to work as aids in administrative and counseling offices and in such other school activities as are deemed valuable to their preparation for teaching. The keynote of the program is flexibility. Careful and continuous planning will be directed toward making the program meet the objectives stated above. If, during the course of the experiment, new objectives become apparent, the flexible nature of the program will permit necessary alterations.

The daily time schedule follows:

8:00– 8:30	Attend faculty meetings, department meetings, etc.
8:30– 9:20	Foundations class meetings
9:25–10:30	Foundations class meetings
10:30–10:41	Break
10:46–11:36	⅔ to student teaching—⅓ to other school activities or study and planning
11:41–12:35	⅔ to student teaching—⅓ to other school activities or study and planning
12:35– 1:10	Lunch
1:15– 2:07	⅔ to student teaching—⅓ to other school activities or study and planning

The student-teaching assignment differs from the usual assignment in the following manner: students do not "take over" completely from the start but act both as teachers and teacher aides as appropriate to the learning situation involved. They are assigned to this situation for two periods daily with two different teachers and two different classes. The exact nature of the assignment and the time allotted to teaching and to acting as a teaching assistant are adjusted to fit the best interests of the student and of the school.

Students are required to enroll in one course in their major field on the campus of Los Angeles State College during the semester. The purpose of this requirement is to allow major divisions to maintain contact with the student in the program and to enable students to maintain campus contact. Additionally, it is hoped that this requirement will give students an opportunity to clarify subject-matter problems of student teaching that may arise during the semester. Students will be given formal grades in the foundations courses, based upon written work, examinations, and class participation. Student teaching and teacher-aide activities will be evalu-

ated on the basis of supervisor and master-teacher observations. In order to objectify this evaluation to some extent, the directors of the program will develop a checkoff sheet to be used by the master teachers and supervisors. The sheet will be constructed with column headings that indicate teacher competencies in terms of behaviors. A mark in any column then will mean that the student displayed the particular behavior indicated. Additional markings in the same column will indicate that the behavior was displayed on more than one occasion. A summary of these checks should give some measure of the student's competency to operate in a classroom situation and may serve as a check on the effectiveness of the total program.

The entire program will be evaluated. Evidence for the evaluation will be collected by several means. First, a series of subjective evaluations of the program will be made by the college faculty members assigned to the program, selected college faculty members not assigned to the program but interested in secondary-teacher preparation, and interested professional individuals who are external to the Los Angeles State College and Los Angeles City School System.

Second, an evaluative interview with an "open-ended" item structure will be held at the end of the project with members of the administrative staff of the high school, a sample of the master teachers, and members of the experimental student-teacher population.

The third effort at evaluation will be based upon a comparison of the supervisors' rating sheet evaluations of the experimental student teachers during their second student-teaching assignment with similar data on a matched control group. The control group will be obtained from the list of those who volunteered for the program but who were eliminated from the experimental population because of numerical quotas.

Finally, job-placement data on the experimental group will be compared with similar data on the matched control group. First-year teaching competency evaluations by principals will also be compared for the two groups.

The over-all projected goal of the study is to assess the possibility of more closely relating foundations materials in education to the teaching process. It is anticipated that an expanded program in this pattern will be conducted.

WHAT'S HAPPENING IN CALIFORNIA SECONDARY SCHOOLS

BY WILLIAM N. McGOWAN*

What's Happening in Junior High Schools

Staff and students at *Chula Vista Junior High School* emphasized the California Association of Secondary School Administrators' Accreditation Program in their 1959 yearbook, the "Chula Vistan." The first page of the publication shows a photograph of a large number of students entering the local theater, bearing on the marquee the following inscription: "Chula Vistan Presenting 'Evaluation' Fifty-nine." Under the picture the first paragraph reads as follows: "This eventful year has been climaxed with the study and accreditation of Chula Vista Junior High by the California Association of Secondary School Administrators. From this evaluation we have discovered our weak and strong points and as a result will be able to raise our school to an even higher plateau. In view of this memorable event the Chula Vistan Staff has chosen to present as the theme for our annual the movie 'Evaluation.'"

On the flyleaf of each section of the yearbook there is a printed quotation from the recommendations which the visiting committee made. For instance, on the flyleaf in the section on organizations is a quoted statement made by Dr. Robert Brown, of the visiting committee, as follows: "The school has a wide range of organizations, but more clubs might be formed for the number of students in the school."

The school really capitalized on the experience of the evaluation and will profit a great deal from the program during the next few years under the leadership of their principal, James Midgley.

What's Happening in Senior and Four-Year High Schools

At *Las Lomas High School, Walnut Creek,* a code of ethics has been

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developed by a leadership group, the "Knights of Las Lomas." The code reads as follows:

> "To nourish integrity, to develop character, and to encourage learning, the Knights of Las Lomas adopt this Code of Ethics.

LOYALTY	A fidelity to parents, teachers, friends, and acquaintances
ATTITUDE	A wholesome attitude of straightforwardness and truthfulness; freedom from conceit
SCHOLARSHIP	An inquisitive mind open to criticism and correction
LEADERSHIP	Develop a standard of conduct which would guide, influence, and teach democratic principles
OBLIGATION	A realization of duties to school, parents, and one another
MATURITY	Development of natural faculties as close to perfection as possible
APPRECIATION	A development and realization of the principles of integrity, virtue, and worth
SPORTSMANSHIP	A cheerful attitude toward rules and regulations."

The *San Diego City Schools Curriculum Office* has prepared a diversified selection of materials for use by school people in interpreting the school program to parents. These carefully written, attractively presented pamphlets and brochures are especially handy in the school office, at PTA meetings, and on all occasions where the public is invited to give attention to school programs and problems. Sample titles of developed materials include (1) Combination Grades, (2) Graduation Requirements, and (3) Homework in the Junior and Senior High Schools.

Special Item

What to do with married girls in high school, and how to treat problems arising from pregnancy of these young people, continues to be an item of serious concern. Reported here are policies being implemented by several schools.

Excelsior Union High School District—Artesia High School

MARRIED GIRLS IN HIGH SCHOOL

Because of the growing number of marriages among girls of high school age and the problems that have arisen from the presence of these girls in high school, the following policy is adopted in order to make clear the

conditions under which the education of these girls may be continued in the regular high school. In each instance consideration should be given to the individual case.

Girls should be encouraged to report their marriages to the girls' vice-principal or dean of girls, so that school records will be kept up to date. A married girl should be counseled concerning her new responsibilities; her home, her husband, etc. She should realize that her new role and duties should take precedence over her school life. If, however, she examines her new role and duties and finds she can continue in school successfully, she should then be allowed to continue school within the provisions outlined below:

To continue in school, a married girl must:

1. *Attend regularly.* Poor attendance caused by any other reason than illness is sufficient reason to cancel enrollment.
2. *Keep up schoolwork.* Poor scholastic record caused by lack of preparation, lack of effort, or lack of cooperation in class may be considered sufficient reason to cancel enrollment.
3. *Exert no unwholesome influence.* Discussions which might be considered undesirable for unmarried girls to hear may be sufficient cause for cancellation of enrollment.

Pregnancy

Physical evidence of pregnancy will be sufficient cause to request a girl to check out of school (unless it is within the last few weeks of a semester, in which case she will be permitted to complete her credits for that semester). She must check out of the regular day school and, if she wishes, enroll in the adult school to complete her credits and receive her diploma from that school. The principal of the school should approve any cancellation of enrollment.

Los Angeles City School Districts

PREGNANT MARRIED GIRL

All married girls should be told that although pregnancy is not a cause for immediate discontinuance of school attendance, the girls' vice-principal must be informed of the pregnancy as soon as the condition has been established.

If the pregnant girl wishes to remain in school, the vice-principal should require approval from the girl's doctor. The doctor's statement should advise that attendance at school and participation in the regular school program will have no adverse effect on the girl's health.

The time limits established for pregnant certificated personnel—that is, release from school to begin three months before delivery and continue for

two months after—might be used as a guide in deciding on the girl's time in school.

PREGNANT UNMARRIED GIRL

Consultation with the girl, her parents, and the school doctor or nurse should occur as soon as the vice-principal becomes aware of the situation. After the conference has verified the condition, arrangements for termination of attendance should be made. During the conference with the doctor or nurse, it is suggested that the parents be informed of facilities available for care of unmarried pregnant girls.

Childbirth in itself is not to be considered a basis for refusal to readmit a girl under eighteen years of age to her own or another school. In many cases it is advisable to transfer the girl to another school, especially if the circumstances have been given publicity in the girl's own school. The transfer would be made on a social adjustment permit arranged by the vice-principals of the schools concerned.

Temple City Unified School District

This policy is taken from the Administrative Code, Temple City Unified School District, adopted by the Board, 1959, and is found on page 34:

"4. Marriage and Pregnancy

a. When a girl currently enrolled in the Temple City Schools marries, she shall immediately assume her married name, and such records as deemed necessary shall be changed accordingly.

b. Should a girl who is married become pregnant, she will normally be expected to drop out of school after four months of pregnancy unless other considerations warrant an extension of time. The girls' vice-principal shall make such determination and recommendation. Home teaching may be provided. (E.C. 9602.)

c. Should an unmarried girl become pregnant, she shall be expected to check out and be assigned to home teaching as soon as there is medical evidence of the condition. Should it not be possible to obtain medical evidence, the girl may be requested to check out in accordance with Education Code Section 16033."

San Juan Union High School District, Carmichael

POLICY ON MARRIED AND/OR PREGNANT STUDENTS

1. Married students have the same educational privileges and carry the same responsibilities as unmarried students.
2. In the event of pregnancy, a married girl may elect any one of the following procedures concerning her education:
   a. Remain in school under a normal program of studies. She will be required to furnish a statement from her doctor with a recom-

mendation regarding participation in physical education. When the condition of pregnancy reaches a state of development where the nature of school activities is considered to be hazardous to the girl's health and welfare, and, after a conference with the school nurse and the dean of girls, the principal will notifiy in writing the husband of the girl and her doctor of this situation; the responsibility for her continuance in school will then rest with her husband and her doctor.

b. Receive home teaching, attend evening high school, or Adult Education classes.

c. Request clearance from school.

3. An unmarried pregnant girl will be cleared from school, and may elect home teaching, evening high school, or Adult Education if she desires to pursue her education.

Torrance Unified School District

Pregnant girls are assigned to the Adult Education program whenever their curriculum can be coordinated without loss of credit. If it is late in the year and a credit loss is inevitable or there are physical complications, they are assigned a home teacher.

The home teaching policy reads:

"Pregnancy cases will be transferred to the Adult Education program whenever possible. Such cases are eligible for home teaching when confined to the home under extenuating circumstances or when the coordination of the Adult Education curriculum with the high school curriculum creates an undue hardship. Cases may be recommended for home teaching if there is an additional physical disability or if the pregnancy will make it necessary for the girl to leave school near the end of a semester, so that it will cause her to lose a semester's credits."

SYMPOSIUM

Television and the Secondary School

That the most powerful of the modern mass mediums of communication, television, can be used constructively or subverted for evil purposes has been brought forcefully to attention in recent months. Vigilance will surely be required to ensure the development of television along lines most suited to the public interest.

This is no less true in education than elsewhere, for the direct use of television in the program of the modern high school looms large on the educational horizon. As readers of this *Journal* are aware, television has been accused of abuses even when used in the schools. The symposium this month reports briefly on developments in California and in other parts of the country. We intend that the symposium be followed later by more substantial reports on specific projects as they develop in different schools. The problems presented are matched only by the potentialities. Here is a new tool waiting and needing to be fully used in the battle against the almost overpowering forces that threaten American education.

One of the bright spots is San Jose State College, where, under the direction of Dr. Richard B. Lewis, significant experimentation in the use of television for educational purposes may be seen. We are indebted to Dr. Lewis for his service in coordinating this symposium and for writing the introductory statement.

TELEVISION FOR INSTRUCTION

BY RICHARD B. LEWIS*

About a year ago, statistics reported by the Fund for the Advancement of Education revealed that 569 school districts in the country made regular use of television for instruction; 117 colleges and universities offered credit courses over broadcast TV; 241 colleges offered credit for "Continental Classroom," the nation-wide TV network program of instruction in physics, now continuing and augmented by a series on chemistry. It was further observed at that time that "virtually every course in the school and college

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curriculum is being taught somewhere on TV." With more than half a million students receiving televised instruction, this statement was made with calm assurance: ". . . it is no longer a question as to whether TV can play an important role in education, but what kind of role it can play most effectively."

While a variety of opinions are expressed when TV instruction is discussed, it seems justified to assume that TV must be reckoned with as a factor in our educational future. The ultimate role of television in education awaits greater understanding of the medium and continued exploration of its potentialities.

Tallest teaching antenna

"Flying TV Classroom to Beam Lessons to Schools in Six States," headlines the *Wall Street Journal* for October 16, 1959. The story of a seven million dollar project to telecast 24 half-hour lessons daily (later up to 72 half-hours daily) to about 13,000 schools in an area of 125,000 square miles, suggests the capacity of technology to bring simultaneous instruction to vast numbers of classrooms. Beginning in the Fall of 1960, this program, to be initiated at Purdue University, will broadcast from television transmitters in a large plane flying at an altitude of over 20,000 feet. A potential school and college audience of five million students is in the area within the range of the flying transmitter. Cost? Estimates are given at $2.50 to $4.00 per student per year.

The objectives of the air-borne instruction include: ". . . to give students educational experiences which are often beyond the scope of conventional means of instruction; . . . to broaden the curriculum of the smaller schools; . . . to enable the classroom teacher to devote more time to individual learning needs of students; . . . to couple the talents and personal contacts of classroom teachers with additional resources of an outstanding TV instructor; . . . to allow a larger number of students to benefit from added learning resources; to help stretch the available school dollar still further and at the same time to improve quality of instruction."

While these objectives are similar to those expressed by other proponents of television instruction, this project dramatizes its potential and may stir even the most indifferent observer to believe that schools might be different before long. But, the kinds and intensity of change may be great, for television instruction means many things and is not simply defined.

Progress in other states

The extent and variety of activities over the country is evident from these brief excerpts from "Educational Television Today—a Status Report" issued by the Joint Council on Educational Television in January 1959.

Alabama: ". . . state-wide network serves 80 per cent of the state's population with programs ranging from direct teaching on nearly all academic levels to those addressing a large general audience . . . more than 250 schools are utilizing the network's televised lessons, either for direct teaching or enrichment. . . . A typical day's programing includes telecourses in Spanish, physics, chemistry, trigonometry, Alabama history, Latin, and biology."

Arkansas: "In eastern Arkansas students in a number of high schools are receiving a course in physics telecast by educational television station WKNO in Memphis, Tennessee." (Use of this physics course, first produced at WQED, Pittsburgh, was also reported by Macon, Georgia; Oxford, Mississippi; and other communities.)

Idaho: "Boise Junior College has produced art and political science telecourses for credit on a commercial station."

Illinois: Over WTTW (Channel 11), an entire junior college curriculum is broadcast in the Chicago area.

Indiana: "In Evansville, direct TV instruction in science, history, English, government and geometry is being produced . . . for schools in ten southwestern Indiana counties. More than 11,000 students in 121 classes in 16 school systems receive a portion of their regular instruction by television."

Minnesota: In the Minneapolis-St. Paul area—". . . 60 per cent of the secondary teachers are using ETV programs in their classrooms."

Missouri: KETC, St. Louis, brings "instruction into the classroom (more than 92,000 students) at all levels from the first grade through high school."

Nebraska: KUON produces "a TV correspondence course for 29 high schools within a 60-mile radius of Lincoln. During the academic year 1958–59, 490 students were enrolled in credit courses in beginning and advanced algebra, general mathematics, physics, plane geometry, chemistry, art, American literature, and Spanish."

Oklahoma: "During the past school year, station KETA-TV produced direct teaching lessons in chemistry, trigonometry, physics, advanced algebra, and geology. Pupils in Oklahoma City Schools and 70 additional schools in the State were enrolled."

California

California has been progressing much more slowly than some states in serious exploration of television, yet there are promising and challenging TV activities. Experience confirms the fact that use of television must precede continuing, successful utilization of the medium, and extensive acceptance of it by teaching personnel. It is essential that citizens and school personnel alike should take advantage of opportunities to see television

teaching in action, to estimate its potential, to analyze its problems, and to refrain from forming conclusions too rapidly.

Throughout the State, television instruction can be observed. In the Bay Area, the programs for schools from KQED (Channel 9), San Francisco, offer opportunity to evaluate TV teaching. KVIE (Channel 6) in Sacramento is entering the same field this year, and, with KQED, is a proving ground for the services of educational television stations.

In Los Angeles, the work of the public schools in cooperation with local commercial stations presents another approach to teaching by television. Los Angeles State College is broadcasting courses. Programs of an instructional nature may be seen in Fresno, Chico, Eureka, San Diego, and in Shasta County, and more institutions are planning instruction by television.

Closed-circuit uses of television may be seen in many localities. Extension of this work proceeds more rapidly than information can be obtained about it. Anaheim schools have just initiated an extensive instructional program by closed-circuit television; Compton College has undertaken combination film-television teaching that, unfortunately, is too little understood as an experiment worthy of study and cool-headed appraisal for its potentials and limitations; Los Angeles City College, San Jose State College, UCLA, and an increasing number of other institutions are initiating or have current programs, each with objectives differing in detail, but with fundamentally common objectives.

State-wide general interest in instructional television is growing. Recently, Governor Brown has announced re-activation of the Governor's Advisory Committee on Educational Television. The California State Department of Education is encouraging exploratory work with television. United States Congressmen, in November, held hearings in the State to obtain professional and lay opinion on the need for federal assistance to the States to facilitate growth of educational television.

The articles in this issue of the *Journal* give some background about programs of special interest to secondary school personnel. A later issue will include an article on the implications of research conducted throughout the United States on televised instruction.

For the present, it seems imperative that every possible avenue of information about instruction by television be utilized by administrators and teachers. To keep in touch with developments, in addition to reading the extensive accumulation of literature on educational TV, the following sources of bulletins, programs, and reports will be helpful.

Educational Television NEWS
Radio Corporation of America
Camden, New Jersey

Committee on Television
American Council on Education
1785 Massachusetts Avenue N.W.
Washington 6, D.C.

Joint Council on Educational Television
1785 Massachusetts Avenue N.W.
Washington 6, D.C.

California Teachers Association
(Mrs. Mabel N. Perryman, Director, Radio-TV)
1705 Murchison Drive
Burlingame, California

Educational Television Research Association
1720 Oregon Street
Berkeley 3, California

National Educational Television and Radio Center
10 Columbus Circle
New York City, N.Y.

National Association of Educational Broadcasters
14 Gregory Hall
Urbana, Illinois

KVIE-TV (Channel 6) Sacramento
Victor M. Hyden, Jr.
Director of Public School Telecasts
Box 1882
Sacramento, California

KQED-TV (Channel 9) San Francisco
Raymond L. Smith
Director of School Telecasting

Phillip Essman, Consultant
Division of Audio-Visual Education
Los Angeles County Schools
801 South Lorena Street
Los Angeles 23, California

Fund for the Advancement of Education
477 Madison Avenue
New York 22, N.Y.

USE OF TV IN SCHOOLS—THE NATIONAL VIEW

This article was to have been prepared by Alexander J. Stoddard, former Superintendent of Los Angeles City Schools and now Consultant to the Ford Foundation's Fund for the Advancement of Education. Illness prevented him from making the report. However, with the permission of the Fund for the Advancement of Education, the following excerpts from two of its publications are presented. Readers are encouraged to obtain full reports from the Fund at its offices, 477 Madison Avenue, New York 22, N.Y. The reports on which this statement is based are *Teaching by Television,* May 1959 (87 pages), and *The National Program for the Use of Television in the Public Schools: A Report of the First Year, 1957–1958,* January 1959 (89 pages). (A report of the Program for 1958–1959 will soon be released, according to the Fund offices.)

For several years it has become increasingly evident that three problems are developing so rapidly and to such proportions as to affect seriously, if not to threaten, the whole structure, content, and purpose of American education. The first of these is one of numbers. . . . These increasing numbers are mostly boys and girls who need more teachers, more school buildings, more educational facilities of all kinds. . . .

The problem of numbers is not the only one that baffles and perplexes us. There is also the fact that the body of knowledge itself is expanding beyond the imagination of yesterday and continues to grow today at a rate that baffles realization. . . .

The third, and probably the most serious, of the three basic problems now confronting American education has to do with the increasing complexity and quality of learning necessary for everyone. This reaches into processes of communication, teaching procedures, and learning techniques.

Man's ability to acquire and impart knowledge of all kinds has always been circumscribed or limited by his means of communication. . . .

Because television can be used to communicate sensations involving

sight and sound to large numbers of people at one time, because it can be used to greatly extend the "reach" of our very best teachers, and because it offers practically unlimited possibilities for expanding the scope, depth, and quality of curriculum content, . . . it was logical to assume that teaching, under normal conditions, which utilized such a powerful resource as might be provided by television, could be as effective or more effective than teaching without such a resource. But the important and basic question was still unanswered. Could television be used practically to teach *large classes* as effectively as small classes?

. . . After consultation with superintendents of schools, school board members, school staffs, teachers, college deans and their staffs, state school officers, and with citizens generally, in a large number of places over the country, the Fund for the Advancement of Education of the Ford Foundation decided to support experimentation in the use of television as a powerful resource in the teaching of large classes at the school level, usually with one or more teachers in the receiving class responsible for the follow-up activities built around the television presentation. This experiment was established as a large cooperative project and designated as the National Program in the Use of Television in the Public Schools. . . . This nation-wide experiment involved in 1957–58 nearly 40,000 students in more than 200 elementary and secondary schools. (Note: in 1958–59 the number of schools increased to 402, the number of students to over 90,000.)

Participating in the first year of the National Program were the public school systems of Atlanta, Cincinnati, Dade County (Miami), Detroit, Jefferson County, Kentucky, Milwaukee, Norfolk, Oklahoma City, Philadelphia, and Wichita as well as scores of other school systems in Nebraska, North Carolina, and Oklahoma.

In many ways, these school systems were representative of the nation's public schools. First, they had wide geographic scatter, representing every major section of the country except the Far West. Second, the schools they embraced ranged all the way from a two-teacher high school in Nebraska enrolling only twenty-nine students to big city schools in Detroit and Philadelphia enrolling several thousand students. Third, these schools enrolled students from a wide variety of socio-economic and racial backgrounds, possessing a wide range of abilities and interests, and the schools were staffed by teachers with a similarly wide variety of backgrounds and levels of competency. Finally, the school buildings themselves ranged widely in terms of age, location, and adequacy of facilities. Some were spanking-new suburban schools equipped with all the modern appurtenances of education, and others were aging, dilapidated urban schools with the most rudimentary facilities. None, however, had been built to use television.

Objectives of the Experiments

The major objective of the National Program is, as has been suggested, to determine whether it is feasible, using televised instruction as a major resource, to teach large classes of students with fewer teachers and fewer classrooms than might otherwise be required, and at the same time to upgrade the quality of education. It is hoped that the experiment also will provide evidence on these related matters:

1. The kind and amount of services other than televised instruction needed to set up optimum conditions for learning.
2. The scheduling and school building problems involved in teaching large classes by television, and whether or not these problems can be met at low cost and without sacrificing quality in instruction.
3. The budgetary implications—both capital and operating—of the savings in teacher time, in building space, in equipment, and in other items of educational cost.
4. How best to develop teacher talent, not only for television, but also for teaching larger classes in regular classrooms. . . .

Operation of the Experiments

. . . The newness of the medium posed all sorts of questions. To begin with, what were the qualities that made a good television teacher? Were these qualities different from those that characterized a good classroom teacher? Furthermore, if televised instruction were to be used in conjunction with regular classroom instruction, what was the role of the studio teacher and what was the role of the classroom teacher? Within the limits of a given class period, how much time should the studio teacher have, and how much time should the classroom teacher have? What should each attempt to do in the allotted time? Would this new medium of instruction glamorize the television teacher and relegate the classroom teacher to the role of a monitor? Or was it possible for the studio teacher and the classroom teacher to combine their competencies into a team approach which might be more effective than the conventional method of teaching? Was it possible, by the use of this new medium, to bring into the classroom educational experiences which the student might otherwise not be able to have? How could courses be organized so as to make the maximum use of this new medium of instruction?

These were some of the questions which confronted the teachers, supervisors, curriculum advisers, principals, and superintendents of the participating school systems as they launched their experiments.

Advance Planning. . . . before the experiments got under way, workshops were held to plan in detail the courses which were to be televised. Participating in these workshops were the studio teachers and the class-

room teachers who were to be involved in the experiment. In most cases these workshops developed detailed course outlines, as well as guides for the classroom teachers and, in several instances, guides for the student as well.

Physical Facilities. Since today's schools were not designed for television teaching—especially in large classes—one of the major problems confronting the schools participating in the National Program was how to make provision for classes that were five, ten, or even twenty times the size of conventional classes. This problem was met in various ways. . . . use of the school auditorium . . . use of the school cafeteria, . . . use of large study halls . . . which proved generally satisfactory because they provided desks for the students and permitted a systematic arrangement of the television receiving sets. In other cases less acceptable arrangements had to be employed. One elementary school, for example, put two portable buildings together to form its large television classroom. This was decidedly not a happy arrangement, but the classroom teacher responded heroically to the situation and that particular class was mentioned favorably by many people who visited various schools in the National Program.

Class Size. . . . At the elementary school level, the television classes ranged in size up to 175. At the junior and senior high school level they were much larger, ranging in size from 200 to 500 . . . generally in courses such as history, English, mathematics, physics, and chemistry.[1]

How the Courses Were Taught. Because of the wide variations in practice among the participating school systems, and because of other variations having to do with subject matter and grade level, it is not possible to give any generalized picture of how the television courses were taught. However, at the risk of oversimplification, the following picture might be drawn:

In the elementary courses, the classroom teacher usually had about five minutes before the telecast to prepare her students for what they were about to see and hear; the studio teacher then presented the main points of the lesson in a twenty-minute telecast; the classroom teacher then answered questions, stimulated discussion about the points made by the studio teacher, and (depending upon such imponderables as the general ability level of her class or the complexity of the subject matter which had

[1] 1957–1958—*Secondary School Subjects Taught by TV.*
9th Grade—algebra, art, biology, general mathematics, world history.
10th Grade—art, biology, driver education, English, geology, geometry, world history.
11th Grade—algebra, American history, American literature, art, chemistry, geometry, geology, physics.
12th Grade—algebra, art, biology, English, geometry, geology, physics.

been presented in the telecast) either reinforced the main points of the lesson or carried her students much beyond what had been presented. Sometimes, of course, a classroom teacher did both. The teacher guides which had been prepared in the summer workshops often contained suggestions for what the classroom teacher might do in the follow-up part of the lesson, and in those instances where student guides also had been prepared there were suggestions as to what the student might do on his own to follow up the main points of the lesson.

In the junior and senior high school courses much the same procedure was followed, except that there was much wider variation in the timing of the follow-up period. Practice varied so widely that few generalizations are possible, except to say that the televised portion of the lesson was usually about thirty minutes, and the follow-up about twenty-five. Schedules varied so widely that in some instances the follow-up came before the telecast, in others it came afterward, and in still others it was divided.

It was customary to have one or more regular classroom teachers present in the viewing room during the entire lesson. In some instances one classroom teacher handled the entire class. This was most often true at the elementary level. At the junior and senior high levels, the general practice depended a great deal upon subject matter, scheduling, and the size of the class. In some cases one regular teacher in the particular subject matter of the course (for example, an English teacher) handled the entire class with the assistance of an aide, who took attendance, passed out papers, and performed other nonprofessional chores. In other cases, depending largely on the size of the class, two teachers in the particular subject matter were assigned to the class. In still other cases—as when, for example, a class in English was to be followed by a class in history in the same large room—a teacher from each subject-matter area was assigned to both classes. The English teacher would handle the follow-up teaching in her course, assisted by the history teacher, and during the history course the roles of the two teachers would be reversed.

Finally, it should be emphasized that no student in the experiment received all of his instruction over television.

Evaluation of the Experiments

. . . Although the evaluators agree that no final conclusions can or should be drawn on the basis of the first year's results, reports from the participating school systems indicate that the results of the first year of experimentation were very encouraging.

Despite the newness of television as a medium of instruction, despite all sorts of technical difficulties, and despite the makeshift arrangements required to convert auditoriums, cafeterias, large study halls, and portable

buildings into classrooms – despite all these handicaps the test results clearly showed that students who received part of their instruction over television in large classes did as well as, and in many cases significantly better than, students who were taught by conventional methods in small classes.

Out of 110 different comparisons in which the performance of TV students was matched against that of control students of equal ability, sixty-eight comparisons favored the TV students and forty-two favored the control students. There were thirty-eight cases where the difference in achievement was statistically significant; in twenty-nine of these the difference was in favor of the TV classes, and in only nine was it in favor of the control classes. According to the laws of probability, the chances of such a result happening purely by accident are only five in a thousand. . . .

Other encouraging results emerged from the first year's experience. For example:

1. The use of television as a medium of instruction in many instances brought about a rethinking of the curriculum and course objectives.
2. Television, by bringing superior teaching to the attention of classroom teachers, proved to be a valuable tool for the in-service training of teachers.
3. Because of the careful planning that went into them, the televised courses in many cases proved much better organized than conventional courses, and the television teachers found they could cover much more ground–and in less time–than they could by conventional methods.
4. Television brought into the classroom far richer educational experiences than had been possible before. (In Philadelphia the chairman of the U.S. Committee on the International Geophysical Year spoke to more than a thousand science students on the meaning and significance of the IGY. In several other cities rare treasures from museums of art and history were shown to the students over television.)
5. Since all but one of the projects used open-circuit television, the studio teachers had a much wider audience than the students in the classrooms. They found that other school systems were tuning in on their broadcasts and that parents were watching them regularly.
6. Many school librarians reported that the TV students–stimulated by provocative teaching–were making much more extensive use of the library than other students.
7. Several school systems reported substantial savings in teaching positions and in classroom space–with no sacrifice of quality. Dade

County, for example, saved the equivalent of twenty-seven teaching positions and twenty-nine classrooms. In other cities the teacher time saved by the use of television in large classes was used to provide much more individualized instruction for slow learners and rapid learners.

8. Tardiness and absences fell off sharply among students in the television classes.
9. Except in a few isolated cases, discipline was not a problem in the large classes.
10. The techniques of teaching and learning in large-class situations have by no means been thoroughly mastered, but the classroom teachers and the students worked hard during the first year to develop and improve them. Classroom teachers experimented with various ways of eliciting student participation, both during and after the televised part of the lesson, and students began to develop the arts of note-taking and of speaking clearly and distinctly in the large classes. . . .

First-Year Problems

As might be expected, the school systems participating in the National Program encountered many problems during the first year. . . .

1. The problem of inadequate facilities. As has been indicated earlier in this report, this was the major problem faced by most of the participating school systems. Auditoriums and cafeterias were not designed for use as classrooms, and they were far from ideal when used for the large television classes. Several school systems, on the basis of their experience during the first year, made alterations to these large rooms in an effort to improve them for classroom use during the present year.
2. The problem of finding, recruiting, and training studio teachers. Generally speaking, good classroom teachers make good television teachers, but there are special techniques which any teacher must master in using television as a medium of instruction.
3. The problem of training classroom teachers in the techniques of handling large classes, particularly in the techniques of eliciting student participation. Discipline has not been a problem in the large classes, but student participation in a large class must of necessity take different forms than is customary in a small class. Several imaginative teachers in the large classes have devised new techniques for stimulating student discussion and involvement after the telecast part of the lesson, but much remains to be learned in this respect.

4. Students, too, need to learn the techniques of learning in a large class situation. Here, again, much remains to be learned about the nature of student participation and the various forms it can take.
5. The problem of integrating the telecast part of the lesson and the classroom follow-up into a unified, meaningful whole. This involves the whole question of the role of the studio teacher and the role of the classroom teacher as members of a teaching team, a question that needs much fuller exploration.
6. The problem of revamping the curriculum to take maximum advantage of television as a powerful medium for the transmission of ideas and concepts as well as factual information. On the basis of the first year's experience, the participating school systems are convinced that the new medium makes possible a much broader, deeper, and richer curriculum than is possible under conventional methods of instruction. The problem is to develop a curriculum that fully exploits the possibilities of the new medium.
7. The problem of adapting the new technqiue of teaching by television to the varying abilities of students. This also is a problem in conventional instruction, but it becomes increasingly important when a television teacher reaches several hundred, or several thousand, students in widely scattered classrooms.
8. The problem of scheduling, both with respect to the time of day the lesson is telecast and also with respect to the duration of the telecast and its place in the class period. The latter aspect of the problem has important implications for the problem of integrating the telecast and the classroom follow-up into a meaningful whole.
9. Finally, there is the never-ending problem of quality. Television is essentially neutral as a conveyor of ideas, concepts, and information. The quality of the output can only be as good as the quality of the input. A mediocre teacher on television communicates her mediocrity to a much wider audience than a mediocre teacher in a classroom. Generally speaking, the quality of the television teaching in the National Program has been excellent, but the studio teachers themselves are constantly working to make it even better.

The Second Year

All of the participating school systems except one are continuing in the Program for the second year, and most of them have expanded their participation in terms of the number of schools and the number of students. The one exception is Cincinnati, which, without grant support from the Fund, is continuing this year to use televised instruction as a resource.

Two new experiments have been added to the Program. In Kansas City, Missouri, three local television stations are each broadcasting a daily half-hour lesson taught by teachers from the Kansas City schools. Three pilot classes are receiving the televised instruction regularly, but any school within range of the station may also participate. The courses being taught are tenth-grade world history, fifth-grade science, health, and safety, and ninth-grade science. The latter course is being taught to a pilot class of eighth-grade students.

The second new experiment in the Program involves sixteen school systems in southwestern Indiana which have banded together to form the Southwestern Indiana Educational Television Council, with headquarters in Evansville. More than ten thousand students in these school systems are receiving televised instruction in fifth- and sixth-grade science, seventh- and eighth-grade general science, ninth-grade English literature and grammar, tenth-grade geometry, eleventh-grade U.S. history, and twelfth-grade government, economics, and sociology. This project represents a unique venture by a cluster of adjacent school systems into cooperative planning, financing, and operations.

SCHOOLS AND COLLEGES AWAIT PEAK 46.4 MILLION IN FALL

Enrollment Will Set Record for 15th Year—Shortage of Qualified Teachers Increases to 195,000

School and college enrollment is expected to reach 46,480,000 in September it was announced today by Dr. Lawrence G. Derthick, Commissioner of Education.

This would be the fifteenth consecutive annual high. Last year's enrollment was 44,540,000.

A rising shortage of qualified teachers, 195,000 this fall as compared with 182,000 last year, was also reported by Dr. Derthick. The number of teachers needed in September is estimated at 1,563,000, the number qualified as 1,368,000.

Dr. Derthick said this deficit would be partly filled by former teachers returning to service, and by instructors with substandard certification. He added that in many communities it would mean overlarge classes and the curtailing of the number of courses offered.

He also announced that turnover in teaching positions had been found to be higher than thought in recent years in calculating shortages.

The commissioner said that studies in progress confirmed a teacher-turnover rate of 10.9 per cent as being more accurate than the 7.5 per cent that had been used in previous calculations.

From kindergarten through grade 8, 33,460,000 pupils are expected to enroll this year as compared with 32,010,000 in 1958.

In grades 9 through 12, 9,240,000 will be enrolled, as against 8,940,000.

In colleges, 3,780,000 are expected as against 3,590,000.

Since 1929, college enrollment has more than tripled, high school enrollment has almost doubled, and grade school enrollment has increased by one-half. The figures are as follows: College, from 1,101,000 to 3,780,000; high school, from 4,812,000 to 9,240,000; grades, from 23,740,000 to 33,460,000.

—*N.Y. Times*, August 29, 1959

TELEVISION AND THE NATIONAL DEFENSE EDUCATION ACT

BY THOMAS D. CLEMENS*

For many years a large number of investigators, from many different agencies, have collected evidence about the relative effectiveness of various communication media in education, and about techniques of using these media in instructional situations. Despite these efforts, however, it has long been evident that intensive systematic and comprehensive investigation of the new media and their potential contributions to education was necessary before teachers could make optimum use of these tools and techniques in the classroom.

Title VII of the National Defense Education Act of 1958 is intended to assist the classroom teacher in his professional duties through more effective use of motion pictures, television, teaching machines, and other new educational media. There are two means of achieving this intent:

Part A supports experimentation and research into the educational uses of the new media of communication, while

Part B disseminates information concerning these media to state and local educational agencies.

Part A of Title VII provides for systematic appraisal of the role of the media of communication in instruction. In just one year of operation sixty-seven research projects have been initiated. It is likely that an equal or greater number of projects will be initiated each year of operation of the National Defense Education Act. Thus, a rapid accretion of knowl-

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edge about the role of the media of communication in the schools is beginning to take place.

Among numerous projects of special interest to secondary-school personnel are several examples. The University of Miami, Florida, is exploring the effects of television in preparing students for college through orientation and remedial courses. Gifted high school students throughout the State of Maine are receiving televised instruction to provide an enriched learning environment in a project being conducted by the Department of Education of that state.

Mentally retarded students, provided with a variety of types of filmed presentations, are being studied by Grambling College, Louisiana, to determine the values of specially designed lessons. The contribution of televised instruction to laboratory experiences in chemistry courses for secondary-school students is being explored by the University of Alabama. And studies of the potentialities of teaching machines, conducted at Harvard University, will include groups of secondary students in the research population.

On the basis of the research projects already under way under Title VII, the secondary-school teacher may expect answers to the following questions:

1. What are the comparative effects of motion pictures, television, video tapes, filmstrips, audio recordings, and teaching machines, used singly or in combination, in a wide variety of subject areas?
2. How can the new educational media be used in conjunction with more traditional media and methods to facilitate learning?
3. How may these media be adapted to the special needs of gifted, retarded, and adult learners, both in and out of school?
4. How can these media provide richer educational experiences for students in small or isolated schools?
5. How can psychological and educational principles be applied best in the preparation of instructional materials, so that both teaching and learning may be facilitated?
6. How can teachers and prospective teachers be assisted in developing increased proficiency in the uses of these media in their classroom teaching?

Part B of Title VII is designed to facilitate dissemination of these findings to schools, but its activities do not stop there. Under the auspices of Part B, symposia, conferences, workshops, demonstrations, and studies are being conducted to provide direct assistance to teachers and school administrators. This assistance will be implemented by pamphlets, books, and other publications, as well as through television programs, video tape,

and motion pictures. The seventeen dissemination projects now under way include teacher-education conferences, symposia related to the basic problems of education as they involve the new educational media, explorations of special uses of the media in education, and technical studies intended to develop better educational facilities.

In order for Title VII to achieve its goal of assisting teachers and administrators, here are three ways in which you can help Title VII to help you:

1. LEARN MORE ABOUT TITLE VII AND ITS ACTIVITIES. If you send a request on your school letterhead to The Educational Media Branch, Office of Education, U.S. Department of Health, Education, and Welfare, Washington 25, D.C., you will be placed on the mailing list of *Title VII News and Reports*. In this way you will be informed of projects initiated, in progress, and completed; new developments in the Title VII program; and of opportunities for participation in Title VII activities.
2. IF YOU HAVE AN IDEA OF HOW TEACHING AND LEARNING MAY BE FACILITATED THROUGH NEW MEDIA, SUBMIT A PROPOSAL FOR A PROJECT THROUGH YOUR SCHOOL DISTRICT. Some of the best educational research has been conducted by inspired teachers. Research which you conduct can be of help to other teachers in many subject areas and grade levels. Much needed research can be conducted only by teachers or administrators who are actually working in secondary-school programs.
3. TRY TO APPLY THE FINDINGS OF TITLE VII PROJECTS IN YOUR OWN TEACHING. Most of the Title VII projects are specifically designed to be generalized to the secondary school, regardless of the grade level at which they are conducted.

Teaching, like medicine, is an art based upon scientific evidence. Title VII provides the means for collecting the evidence we need about educational media, but only we, as teachers, can improve the art of teaching. Just as the medical practitioner has become more proficient, and has improved his status through the use of research methods and careful application of research findings in his practice, so Title VII provides one means of helping teachers become more effective, and children and youth become better learners.

TELEVISION PROBLEMS IN BAY AREA SECONDARY SCHOOLS

BY RAYMOND LAWRENCE SMITH*

After one year of experience broadcasting to schools, we at KQED are convinced that television has some interesting potentials for use in secondary education if some basic problems can be solved.

By way of background, KQED telecast programs in literature, physics, general math, vocational guidance and careers, and home economics for secondary school use last year. In addition to these classroom programs for students, several programs were produced for in-service education. These were in the areas of history, literature, and audio-visual and library services. The programs were scheduled as follows:

SECONDARY

				Grade Level
David Copperfield	Literature	1:30	T-Th	10–11
Introductory Physics	Physics	2:30 7:00	M-T-W-Th-F M-T-W-Th-F	11–12
Math. Matters	Gen. Math.	7:30	T-Th	9–12
The Job Ahead	Careers	8:30	Th (P.M.)	9–12
Sew Easy	Home Economics	2:30 2:30	T Th	

* Director, School Broadcasting, KQED (channel 9), San Francisco, formerly a member of the staff, Alameda County Schools Department.

New Materials for Instruction	Instructional Materials	4:00	Alt. Th	Teacher Education
California Today	History, Geography	4:00	Alt. T	Teacher Education
English Literature	Literature	4:00	Alt. T	Teacher Education
Library Services	Library	4:00	Alt. Th	Teacher Education

The programs as such were generally judged to range from good to excellent in both curriculum content and quality of television production. I make this point not to compliment the KQED efforts, but only to show that programing quality per se is *not* the major stumbling block to extensive secondary-school utilization of televised lessons.

If not programing as such, then what seem to be the major problems affecting high school acceptance of television instruction? Certainly, scheduling is one of the prime concerns. Apparently there is no "ideal time" for programing any single course—at least not in the San Francisco Bay Area.

The courses in mathematics and guidance were scheduled during evening hours in an attempt to beat the scheduling bugaboo which beset us during the day. It was thought these programs might be used as student homework assignments.

As you will note from the schedule, many of the film courses, like *Sew Easy*, the physics series, and *David Copperfield*, were repeated several times during the week; this, again, was an effort to schedule programs for class convenience.

The fact that there were not enough television receivers in the high schools, and generally inadequate arrangements for transporting sets from one classroom to another, posed another obstacle to TV program utilization.

Another problem was apathy on the part of administrators toward instructional television. There were a few bright spots in the administrative picture, but, in general, administrators showed less than enthusiasm for the use of television in the instructional process. Whether this apathy is due to foreseen inadequacies of the medium, or to "status quo" thinking, is not known at this time.

As a result of the problems outlined above, it was decided not to design a program service by KQED for secondary schools during the current year. It should be emphasized that the station does not determine programs, but, instead, works through a Curriculum Advisory Committee,

which determines areas for curriculum consideration as well as general course content.

However, KQED still believes that television can be used to serve the secondary schools, and, in order to keep the idea alive, we are currently programing a series on Driver Education (produced by WCET, Cincinnati), which is being offered to secondary schools at no charge this year.

It is my feeling that synchronizing bell schedules in all of the secondary schools throughout the Bay Area would not be the answer we're seeking to our scheduling problem. Not only would synchronization be impossible to achieve but our broadcasting day has only a limited number of time slots for broadcasting.

I believe we must await technological developments—for example, advancements in video tape recording—so that programs can be brought to the class at any time a teacher wants them.

In summary, I think that television has much to offer the secondary schools, given a little time for technology to catch up, so that we may solve some of the present and difficult problems imposed by administrative and organizational factors.

TWO IN FIVE ADULTS FOUND ILLITERATE

More than two-fifths of the world's population over fifteen years of age is illiterate, a United Nations publication reported today.

In the Portuguese colony of Angola 97 per cent of the people were unable to read in 1950 while in Sweden the rate of illiteracy in 1945 was estimated at less than 0.1 per cent.

These figures are given in the new edition of "Basic Facts and Figures" published by the United Nations Educational Scientific and Cultural Organization.

Britain has the largest circulation of daily newspapers—573 copies per 1,000 population, the book reports. But in the United States, where 337 papers are sold daily per 1,000 persons, there are many more dailies—1,824 in 1956 as compared with 114 in Britain in 1954.

The publication warns that because of differing definitions and times of collecting data its statistics "are not strictly comparable on the international level."

The book is available at the United Nations Bookshop and from UNESCO publications center, 801 Third Avenue, for $2.00 a copy.

—*N.Y. Times*, August 29, 1959

TELEVISION FOR THE HIGH SCHOOLS OF SOUTHERN CALIFORNIA

BY PHILLIP ESSMAN*

Before enumerating some of the television lessons which are currently being produced for secondary schools in southern California, it might be desirable to explore some of the values of television for education and some obstacles to its use.

We may characterize five major values which educational television has for formal learning: (1) it may be supplementary help for the classroom teacher, (2) it may help by using the "master teacher" concept, (3) it may help through the "null" concept, (4) through in-service education, and (5) by providing "here and now" material.

The supplementary type of television lesson fits into the general category of audio-visual materials which are aids to the classroom teacher as he pursues his daily work. He does not rely on the material being presented for a regularly integrated part of his classroom activities, but calls on it as needed, selecting it from a wide variety of offerings.

The "master teacher" concept, which bears an unfortunate connotation to most schoolteachers, would present a full schedule of lessons, one following another in sequence, utilizing the services of an authority in the subject field. The term "master teacher" is unfortunate since it implies that some teachers are better than others, but it need not be distasteful if one considers that no one is expert in all facets of every discipline.

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The "null" concept simply means providing television courses or subject matter to classes or schools where such material is available in *no other way*. For example, no school districts, to my knowledge, offer courses in conversational Arabic. This could be offered by television to those school districts which might desire it.

In-service education is implicit in all the other categories because it is hoped that techniques displayed by television will be seen and appreciated and perhaps even copied by schoolteachers.

The "here and now" material is, it seems to me, the most important value and probably will be the least used. This involves material of a topical nature which television can bring to viewers as it happens. The familiar examples of a presidential inauguration from Washington or a Democratic convention from the Sports Arena in Los Angeles will serve as illustrations. The great motivation provided by the suspense factor is a powerful aid in the learning process.

Now a listing of some of the obstacles which hamper the furtherance of educational television's advances:

First, there is the bugaboo of finance. The production of usable television lessons offers a hard lesson to administrators who face budgetary woes. The cost of a television series is high, particularly if one adds up all of the hidden factors, such as coordination time and leg work.

Scheduling of the secondary-school program is a prime obstacle to the widespread use of educational television. The high degree of departmentalization serves to cut down the mass usage of what is, after all, a mass medium of communication.

Another obstacle is the school building itself. Our schools are built without regard to optimum television viewing conditions. Frequently there is a great deal of "slap" in the acoustics, glare is present from undraped windows, and, finally, old buildings are designed on a 30/30/30, that is, 30 students per room. The learning process might be served by seminar classrooms where small groups of students come in contact with some materials, and large groups of a thousand or more could be reached by means of television.

There are two intangible obstacles: (1) condescension on the part of teachers and administrators to "machine learning" and seeing television as a medium solely for "cops and robbers"; and (2) apathy or lethargy, which are qualities not held solely by education but certainly indigenous to it. We are loath to try new things when the old things seem to work.

In southern California, despite all the obstacles listed above, a Regional Committee on Educational Television for the Public Schools has been set up by local school administrators. Five counties are represented in this group, including a number of school districts, with advisers from the Office of the Los Angeles County Superintendent of Schools. This group contracted with television station KCOP, channel 13, in Los Angeles, for a half-hour per day during the school year 1959–60. This enables school districts to present a number of frankly experimental television series and to test their effectiveness in many classrooms. They present material of a supplementary nature, of a "master teacher" nature; programs involving the "null" concept and those for in-service education. Series have featured experts in the field of local government; in the special legal requirements, such as alcohol and narcotic education; in conversational Spanish; in vocational guidance; and in combining art, music, and literature with history. An evaluation committee is now at work gauging the effectiveness of these tele-lessons, and a further report should soon be available.

The Office of the Los Angeles County Superintendent of Schools is preparing to request over 250 television sets as part of a project using the National Defense Education Act funds. It is hoped that this will add substantially to the number of television sets currently available in schools: current estimates are about 950 sets, which is a very small number for this vast area. It is perhaps significant that over 400 classes are now using the Spanish television course regularly twice a week, and over 800 LP records for the first eight programs have been sold.

Can our high schools utilize the advantages of educational television? This remains to be seen. Some school administrators are quite enthusiastic, others believe that television belongs in the living room, while still others—the majority—are "holding fire" waiting for evaluation of a "new audio-visual aid." Since financing for educational television lessons is dependent on voluntary contributions from school districts, it is hoped that the districts will not wait too long for evaluation, because there may be nothing to evaluate.

The future does not look bleak. Many school districts are planning voluntarily to finance a program for the second semester of educational television, and, next year, adding greatly to available funds.

CLOSED-CIRCUIT TELEVISION SERVES SECONDARY SCHOOLS

BY ROBERT M. DIAMOND*

Plainedge School System in New York State telecast over one hundred programs to more than 2,200 students in its junior-senior high school during the 1958–1959 school year. Programs were planned by the teachers to meet specific needs of their classes and were transmitted at the exact time they were needed. In the course of the school year, every department in the school used television.

The closed-circuit television system used was entirely within the school facility. A modest studio created from a classroom, two relatively inexpensive TV camera chains, twenty receivers which could be moved from room to room, and cables connecting the system completed the simple installation. Students operated the equipment under the direction of a television coordinator, who also worked with the teaching staff in planning and preparing TV lessons.

Programs of a wide variety of types included talent not only from within the school, but from a nearby college and from other resources in the area. Eleventh-grade English classes received a program on the art of acting, produced with the cooperation of Hofstra College Department of Drama. The students were then reading the play *Our Town*; the telecast presented one scene that was repeated several times with a different combination of actors playing the parts of George and Emily. Through the program the students were able to see how casting of parts and the interaction of actors affect the interpretation of a play.

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Early in the school year the seventh-grade mathematics classes received a program on the history of numbers; the telecast emphasized the importance of numbers in everyday living.

Television often permitted programs to be used by departments other than that for which they were originally designed; for example, an interview with a United States Congressman, presented especially for the Department of Citizenship Education, was also used by a public speaking class to permit analysis of an experienced speaker.

Resources not usually available to the classroom were brought to the students by television since a single presentation could reach many class sessions at one time. Outstanding teachers from nearby colleges, businessmen, representatives from foreign countries, and visitors from industries were generous in their cooperation, encouraged by the convenience of reaching a substantial number of students with a minimum of effort.

Resources within the school were extensively utilized to provide successful and valuable programs. The Industrial Arts Printing Department, for example, produced a program for English classes on the process of printing. A teacher in the school who had served with the educational system of Indonesia presented a program for classes in world history.

Though in the course of the school year an individual class may have used television only two or three times, each time a program was presented it served an educationally sound purpose. Planning insured that each program met this criterion.

A program idea would begin in a meeting held by the TV coordinator and the teachers of a specific course. The first decisions were whether television could be of help to the teacher and his class, and in what specific areas a program or programs seemed worth developing. After general program objectives were established, and a date selected as appropriate for the topic, one or two of the teachers usually volunteered to act as producer-coordinator for the program. This participation served a twofold purpose: to insure the program would meet class needs in terms of content, and to be sure that proper advance information would be prepared and supplied to all teachers planning to use the telecast. In the form of a program outline, the advance information included objectives and content of the program, suggestions for pre- and post-program activities, and suggested materials for study. Such information was considered essential by the teachers to insure deriving optimum value from the telecast.

No telecast was carried to completion unless it met the requirements early established by the teachers. It is important to be firm in such matters, and several programs were dropped from the schedule when it was determined that resource visitors or others were not able to present the program in form and content to meet the specified needs of the curriculum and the classes for which a program was intended.

Often programs were repeated several times during a single day in order that most classes for which a program was designed could use it without class schedule or room changes. A presentation for a class, in its own room, and at the appropriate time, satisfied many of the objections often raised about the practicality of television. The closed-circuit operation permitted flexibility and efficiency in programing.

The technical facilities used are not elaborate, nor are they excessively expensive. The entire television installation was provided at a total cost of under $15,000. Each room in the school was directly connected by cable to the studio, and it was also possible to televise from any classroom to any others in the building; the existing public-address system in the school was used for the sound portion of the program, and the intercommunication system was used for two-way contact between each classroom and the studio during programs.

In summary, a number of considerations have been the result of this exploration of television in the secondary-school program: First, if other in-classroom procedures are more effective or economical for a lesson, there is no justification for the use of television; second, lessons are telecast only if they bring outstanding instruction or otherwise unavailable resources to the classroom; programs are valuable especially if each classroom teacher shares in the responsibility for decisions on what is to be telecast; television programs can be successful without elaborate technical facilities; and, finally, learning to use television requires active use of the medium, with understanding of its particular contribution to the secondary-school program. Thus, the experience at Plainedge implies both value in the medium and the desirability for teachers to work with television for their classes.

SOVIET EDUCATOR APPRAISES AMERICAN MATHEMATICS EDUCATION

"I must say [*this is the chairman's statement: he is a mathematician and was the principal spokesman on the subject*] that in the classes I observed the teachers presented their subjects with skill and knowledge and the students were enthusiastic. But when I compared the tempo of instruction here with the tempo in the Soviet Union, it seemed as if I was watching a slow motion movie. Your usual training in mathematics seems to present students only with standard problems: if the problems are changed in any way, the students are lost.

"In the elementary schools the pupils are hampered by an unnecessary difficulty: They have to translate all measurements into the English system. In the Soviet Union, before the Revolution, we had the same problem, with three systems of weights and measures—the old Russian system, the English system, and the metric system. Believe me, it was a great relief to the children when they were relieved of the first two!"

—School Life, Jan.–Feb., 1959

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